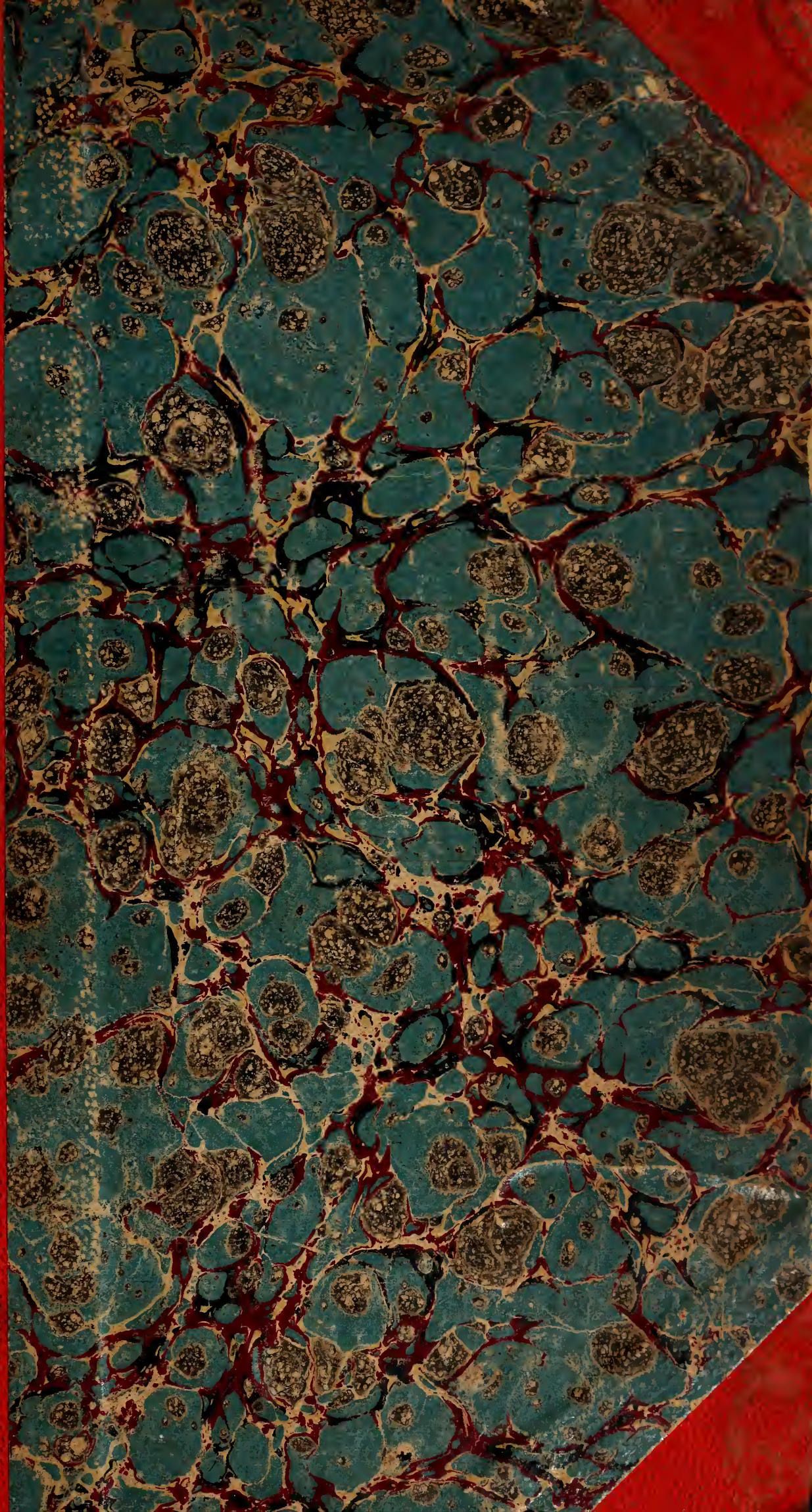


No.....

BOSTON
MEDICAL LIBRARY
ASSOCIATION,
19 BOYLSTON PLACE.

C. B. Endclay Louisville Ky

NO MORE PUBLISHED

THE

WESTERN QUARTERLY JOURNAL

OF

PRACTICAL MEDICINE,

EDITED BY

JOHN EBERLE, M. D.,

Professor of the Theory and Practice of Medicine in the Medical College of Ohio, &c. &c.

ASSISTED BY

PROFESSORS A. G. SMITH, M. D., J. MOORHEAD, M. D., J. LOCKE, M. D., I. COBB, M. D., and J. T. SHOTWELL, M. D.

No. I.—JUNE 1837.

CINCINNATI:

PUBLISHED BY J. A. JAMES & CO.

NO. 1 BAKER STREET.

1837.

THE

WESTERN QUARTERLY JOURNAL

OF

PRACTICAL MEDICINE.

Digitized by the Internet Archive
in 2012 with funding from
Open Knowledge Commons and the National Endowment for the Humanities

http://archive.org/details/westernquarterly11cinc

TO CORRESPONDENTS.

Dr. P. Allen's case of Bronchotomy will appear in our next number.

We thank Dr. R. H. Leech for his very acceptable contribution. It did not reach us in time for the present number.

Dr. Dresbach's interesting case of nervous affection has been received, and shall appear in the next number of the Journal.

Dr. H. Austin's observations, "on sick headache," were mislaid, and could not be recovered in time for the present number. They will appear in the next.

CONTRIBUTORS.

Wm. McClay Awll, m. d., of Columbus, Ohio.

M. B. Wright, m. d., of Columbus, Ohio.

Ephraim Gaston, m. d., of Morristown, Ohio.

E. Dresbach, m. d., Tiffin, Ohio.

Thomas Earl, m. d., Portage County, Ohio.

Peter Allen, m. d., Kinsman, Ohio.

Richard Henry Leech, m. d., New Orleans.

John A. Turner, m. d. Zanesville, Ohio.

R. Rodgers, m. d., Springfield, Ohio.

T. A. Pinkney, m. d., Grafton Green, Illinois.

F. Julius LeMoyne, m. d., Washington.

G. McClellan, m. d., Professor of Surgery in the Jefferson Medical College, Penn.

TABLE OF CONTENTS.

ORIGINAL COMMUNICATIONS.

PAGE.

Art. I. Remarks on Scurvy, as it appeared in the Ohio Penitentiary in the year 1835. By M. B. Wright, m. d., of Columbus, Ohio, 1

Art. II. Reports of Surgical Cases, by Alban G. Smith, m. d. 1. Extirpation of the parotid gland. 2. Removal of calculus from the bladder by lithontrity. 3. Abscess of the brain, ... 15

Art. III. Adversaria Medica. By John Eberle, m. d. 1. Veratria in dropsy. 2. Scarlatina. 3. Use of kreosot to allay excessive vomiting. 4. Ulceration of the rectum. 5. Periodical palpitation of the heart, ... 17

Art. IV. Observations on the abuse of bloodletting. By John Morehead, m. d. 24

Art. V. On the emmenagogue virtues of polygonum hydropiperoides. By John Eberle, m. d. 37

ANALYTICAL DEPARTMENT.

Art. VI. Lectures on the Nervous System and its diseases. By Marshall Hall, m. d. 40

Art. VII. Observations on the nature and treatment of Calculous Diseases. By B. Dudley, m. d. 54

Art. VIII. Practical observations on various subjects relating to midwifery. By James Hamilton, m. d. &c. 58

Art. IX. An Essay on Laryngismus Stridulus, or croup-like inspiration of Infants, &c. &c. By Hugh Ley, m. d. &c. &c. . . . 73

Art. X. A treatise on the radical cure of Hernia, by instruments. By H. Chase, m. d. 90

ANALECTA.

PRACTICE OF MEDICINE.

1. Chloride of Soda in typhoid fevers, ... 94
2. Hydrosulphuretted water, a remedy in diseases produced by lead, *ib.*
3. Incontinence of urine cured by nux vomica, ... 96
4. On the external application of Croton oil, &c. . . . . *ib.*
5. Diagnosis of acute pericarditis, ... *ib.*
6. On Gastroperiodynia, ... 98
7. On Debility in nervous diseases, ... 100
8. On the diagnostic value of the deformities of the chest, &c. . 103
9. On chronic laryngitis, ... 104
10. Tic Doloureux cured by the external application of tartrate of antimony, ... 106
11. On Sulphate of quinine, introduced into the nostrils in Iralgia, . *ib.*
12. A case of chronic dropsy of the head, treated by tapping, . . 107
13. On the use of hydriodate of potass as a remedy for venereal and cachectic symptoms, ... 108

PAGE.

PATHOLOGY.

14. A curious case of enlargement of the lymphatics of the inguinal glands, mistaken for hernia, ... 117
15. On the softening of the mucous membrane of the intestinal canal in children, ... *ib.*
16. On the mechanism of bruit de soufflet, ... 118
17. On the effects of repeated loss of blood on the constitution of the blood, ... 120

SURGERY.

18. Internal fistula cured by the actual cautery, ... *ib.*
19. Muriate of barytes in white swellings, ... 121
20. On extracting foreign bodies from the ear, ... *ib.*
21. On the treatment of vascular nævi by injection, ... *ib.*
22. Cure of ganglions by puncture and compression, ... 122

MIDWIFERY.

23. Successful case of Cæsarian section, ... *ib.*
24. Proportion of labours requiring instrumental assistance, . . 124
25. On binding the abdomen of lying-in women, ... 125
26. Belladonna employed in rigidity of the os uteri, ... 126
27. Uterine hæmorrhage after delivery, ... 127

ANATOMY AND PHYSIOLOGY.

28. On the influence of the nerves on the developement of the muscular system, ... 128
29. On the physiology of vomiting, ... 129
30. On the anatomy of the fifth nerve, ... 135
31. Determination of the question, which are the nerves of taste? . *ib.*
32. On the functions of the cœcum, ... *ib.*
33. On the causes of the motion of the blood in the capillary vessels, 137

TOXICOLOGY.

34. The hydrated peroxide of iron an antidote against arsenic, . . 139

MEDICAL INTELLIGENCE.

35. Abstract of the proceedings of the Medical Section of the British Association for the advancement of Science, ... 141

PHYSICAL DEPARTMENT.

Description of a large Thermo-Electrometer, invented by John Locke, M. D. 149

MISCELLANEOUS.

Medical College of Ohio, ... 157
List of Graduates, of the Medical College of Ohio, ... 162

BOSTON MEDICAL LIBRARY ASSOCIATION

THE

WESTERN QUARTERLY JOURNAL

OF

PRACTICAL MEDICINE.

VOL. I. JUNE, 1837. NO. 1.

ORIGINAL COMMUNICATIONS.

ART. I.

Remarks on Scurvy, as it appeared in the Ohio Penitentiary, in the year 1835. By M. B. Wright, M. D., of Columbus, Ohio.

In the winter of 1835, the scurvy appeared among the convicts of the Ohio Penitentiary. It continued under various modifications throughout the summer, and occasionally exhibited its peculiarities during the autumn. We wish to be understood however, that at the latter period, there was rather an abatement than a cessation of the disease, for we have been told that cases have occurred up to near the present moment of time. It is proper too, that this fact should not be entirely forgotten, not as bearing materially upon the character of the disease, but as aiding our inquiries respecting its probable sources.

The causes of scurvy, as enumerated by authors, are numerous, and a few opposite in their character. Such as existed in the instance before us, shall receive a passing notice, and the extent of their activity, will be afterwards briefly considered.

Hard labour has received its station among the causes of scurvy. Although to conform as near as possible to their sentence, the prisoners are kept at work from an early hour in the morning until sundown, it is, in the general, not excessive. Taking however the number of their busy hours into

consideration, whether their business be, of itself, easy or difficult, it may be said, that they are laboriously engaged.

Cold and impure air, it is said, may be concerned in the production of scurvy. If cold exercises a debilitating influence upon the constitution of the convict, it is more likely to be felt in the cells than in the shops. Their situation in the one apartment will not admit, as in the other, of that action which is competent to resist the active impression of cold. The thick walls of stone which form the outer enclosure of the block of cells, and the heavy matter of the same material by which the cells themselves are constructed, produce such a condensation of the surrounding atmosphere, that it is mostly cool. It is true that an attempt is made, by means of heated stoves, to render those sleeping apartments comfortable, but for want of proper openings to admit of a circulation of air through them, but little benefit can be effected in this way. And again, the air becomes more or less changed in its character, in consequence of so great a consumption compared with fresh supplies. How far a constant supply of pure air, from the outside of the building by means of furnaces, would remedy the evil, is a subject which those whose duty it is should rightly determine.

That the atmosphere in and about these cells is in a vitiated condition, at times at least, there can be no doubt. They are arranged in tiers four stories high, to the number of three hundred and fifty, on two sides of a central block, and open into a common area eleven feet in width. There being no openings to the cells, except in front, the expired air together with the fecal exhalations, ascend from those below and are inhaled by the occupants of those above.

Extreme indulgence in eating, as well as a spare or unwholesome diet, is enervating to the body, and renders it susceptible to scorbutic influence. The food of the convicts should be wholesome, and in such quantities as is requisite to sustain their physical energies; but gluttony, good discipline would not, knowingly, allow. In some instances, however, there is a great indulgence in this particular; and such persons eat, not only to appease a ravenous desire, but seemingly to enjoy the exquisite pleasure of vomiting it up again.

An exclusive or long continued use of salt provisions has been deemed the material, and by some the entire cause of scurvy. As is well remembered, there was a great scarcity of vegetables, during the winter in which the disease under consideration unfolded itself, and it was difficult to procure the needful winter supplies for the prison. The diet, therefore, consisted mainly of bread and meat. Potatoes, as purchases could be made, were sparingly used. Twice a week,

soup was allowed for dinner, made of fresh beef, but each one being permitted to season for himself it was soon converted into brine. An abundant supply of fresh beef was also furnished, but from the quantity of salt eaten at the same time, there was little difference between it and salted meat. So great indeed is the propensity for eating salt among the prisoners, that previous to eating, it is common for them to spread a thick layer of it over their beef or pork, which may have been just taken from the strongest pickle.

Although an opinion is gathered from high authority, that salt is competent of itself, if freely used, to produce scurvy, we are not aware that an appetite for salt has been ascribed as the result of a scorbutic disposition. We will venture the hint that such may be the fact. At least it appears difficult to assign a satisfactory reason, why the convicts in the Ohio prisons have always indulged to so great an extent in the use of salt, if it were not owing to some functional change produced by their incarceration, with its close attendants.

To the depressing passions of the mind, a power is also given over the body. And where would we be inclined to look for the effects of grief and anxiety, more than within the walls of a prison? Neither the young nor old in crime can so far abandon themselves, as not to feel their sorrowful condition; and though they reap alike its fruits of bitterness, their individual emotions come pressing upon them. The former look back continually upon their thoughtless, frolicsome boyhood—upon the endearments of the paternal fireside—upon their light and bounding spirit of innocence; and when they lay side by side the past with the present, their minds are depressed by the contrast. Pass by the old and more hardened in guilt, to look at him whose every thought is stamped with iniquity, and it will be found that grief is seated on his brow, and that anguish is heavy upon his heart. Like the caged lion, he is submissive rather than tame—he is uneasy under restraint—he can devour his morsel with greediness, but his eyes are heavy and cast down—he may doze away the fatigues of labor, but he wakes with no sunshine beaming upon his mind; and shadows and darkness are continually about his pathway.

Before engaging in an inquiry as to the force of the influence exercised by any one or all of the above, as causes of the disease, to which our attention is now directed, it may not be amiss to extend our examinations into certain conditions of the old prison, and, in part, the healthfulness of the convicts while there confined.

The difference in diet between the old and new establishments, is, perhaps, not material. In the latter, more vegeta-

bles of the succulent kind were used during the last and a part of the preceding year, than was common in former years. Vinegar was seldom, if ever, given in the old prison; an article which has been used to a beneficial extent in the new.

The labor of the convicts depended somewhat upon the number in confinement. We speak of them as a whole, for a portion were constantly and actively employed. This was the case, so far as the size of the shops would admit; but in latter times, their limited arrangement was a fruitful theme of official complaint, and more were confined than could be put to work. This state of things made it necessary to lock a portion of the men in their rooms, days and nights together, depriving them alike of every healthful exercise and pure air.

At night especially, the rooms were crowded, and to a person just entering them, the air was exceedingly offensive and sickening. It seemed indeed, to be composed of little else than putrid effluvia. When not occupied, however, the apartments could be thrown open, and fresh air admitted to pass through them.

The wall enclosing the prison yard was built upon, and to conform to a considerable declivity, which constituted a part of the ground plat, so that the wall on the south side was not higher than the upper yard—the yard in which the main buildings and principal shops were placed. Thus situated, the supply of fresh air was constant—sometimes in sensible currents, and again by strong winds.

A few months' incarceration was sufficient to weaken the physical energies of the convict, and to occasion fatigue upon the least extra exertion. At times this was very apparent. A prisoner, for instance, having scaled the wall, found it exceedingly difficult to make good his escape; and in verification of his oft repeated dreams, the more he expected himself to advance, the more was his progress retarded.

The limbs of those whose constitutions have been impaired, especially by debauchery and intemperance, were subject to œdematous enlargements. The cicatrizations of old ulcers were apt to inflame, abrade and open afresh; and, to us, the course of some of these ulcers was peculiar. For a time, all efforts to bring about the healing process were exerted in vain. Suddenly, new skin was seen upon the ulcer, at different points, without any apparent change in the hue or texture of the ulcer itself, and in four or five days the whole surface of the ulcer was hid by a cutaneous covering, to all appearance sound. This surface was supposed to be, at first, coagulated lymph, which sometimes forms upon the surface of indolent ulcers—not from appearance, but from the suddenness of its formation. Inspection, however, rectified this error, and sat-

isfied us that new skin had been, in fact, produced, and produced too, by vessels independent of those of the surrounding skin. It was rather spread over the ulcer than adherent to it. The granulations underneath were diseased; and in place of shooting forth vegetating vessels, secreted a bloody, erosive fluid. The tender skin was unable to resist its action, and it disappeared in less time than it was in forming, leaving the whole ulcer again angry and tender. Restorative action was for a time aroused, but the tone of the system was unable to sustain it.

Recent wounds, accidentally made, or by operations, were slow, but for the most part kind in healing.

A successful treatment of the diseases among the convicts, differed somewhat from that which may have been administered beneficially to the citizen. We will exemplify our meaning. A case of fever presents itself and an active dose of medicine—an emetic or cathartic for instance—is demanded. A full dose has been given, and its operation has been effectual, but more or less prostration has followed, and the question is presented, shall a bold, energetic treatment succeed, or a mild and steady one? Our answer is at hand—neither. By the former course, vital action would be diminished to a dangerous extent; while by the latter, the morbid associations would be scarcely interrupted. Constitutional debility forbids the one plan, and undue excitement the other. The safest and best we have found to be this: not to give the second evacuant, if the operation of the first has been speedy and of full effect, until the system has made an effort to react. Occasional, instead of oft repeated portions of medicine of this character, claimed our confidence, as better calculated to destroy by parts, the entire chain of diseased action, and to preserve materials upon which to establish health and activity in the organs. In our adherence to this outline we were governed, of course, as among other persons, by the circumstances of each individual case; but as a general rule, it must be adhered to in prescribing for the convicts, or the bills of mortality will be greatly increased. In no instance have we been more forcibly impressed with the correctness of the remark, that professional skill consists as much in withholding medicine when it should not be given, as in giving the proper kind when required.

A few cases of Petechial scurvy occurred a few years ago, but they were so slight, except in two instances, that very little attention was bestowed them, as to their origin. Here a question of some importance is presented to our consideration. Why is it that the convicts in the old prison should be so exempt from scurvy, during a period of twenty years,

and in three months after being taken to the new prison, they should become so universally affected? To determine this interrogatory to the satisfaction of our own minds, we must run back, and re-examine some of the preceding facts.

It has been remarked, that when the disease first appeared, the prisoners partook but very little of vegetable aliment, and that they manifested a great fondness for salt. For some time the disease was ascribed to the agency of diet alone; but this was evidently an error, for it prevailed for eighteen months, after vegetables became abundant. In the second and after lists of cases, as many were new as relapsed cases; and upon some there were strong marks of the disease a few days after their admission into the prison.

If the free use of salt was injurious, as respects scurvy, the convicts in the old and in the new prison would have been alike liable to its ravages.

A part of the men, to the number of thirty or forty, have been employed the past season about a mile from the prison in making brick, and in preparing for the erection of the lunatic asylum. The diet of these men did not differ from that allowed the other convicts, and the cells which they all occupied were in the same block. Of those who worked at the brick-yard, only one gave signs of the disease, and not until near the sequel of another affection, under which he had been laboring for some days, and which terminated fatally.

To the question, then, has the disease under consideration been produced by the above causes? we answer that as *remote causes*, they may have had their influence; but that we must look to some other as an *exciting* cause. We rather incline to the opinion that *location* has furnished this cause; but as it is important in many particulars rightly to determine the matter, and as its decision involves a delicate responsibility, we shall not, at this time, express in relation to it a decided judgment. A more close observer may be possessed of a certain clue, as to its concealment, and be enabled to give a satisfactory exposition of its operations.

It will be perceived, by what is to follow, that the disease was insidious in its approach, and secret in the plan of its operations, until brought to light by accidental circumstances.

Case 1. February 17, 1835. M—— T—— received a blow on the head by the falling of a stick of timber, which had been thrown from an upper window of the keeper's dwelling. At the time, he was descending a plank, into the yard, from which he fell, more in consequence of throwing his body in an unnatural attitude, by hearing the exclamation 'take care!' addressed to him, and losing his balance, than by the violence of the blow. An incised wound was made

through the scalp, over the frontal, and one over the left parietal bone, either of which did not exceed an inch in extent. The wounds were cleansed and dressed with adhesive plaster, when the prisoner returned to his labor, feeling as well as usual. At midnight he was seized with a chill, and removed from his cell to the hospital. In the morning I found him laboring under a strong paroxysm of fever—the pain in the head was extremely severe—the pulse was full and active—the skin was hot, and respiration hurried and interrupted by frequent sighing; the tongue was red.

Treatment.—Ordered sixteen grains of blood to be taken from the arm, and an active dose of calomel and jalap to be administered.

19th. Symptoms less violent—free purging to be sustained by frequent doses of sulph. magnes.

21st. Erysipelas appeared on the cheeks yesterday, and has spread over the entire scalp, face and neck. The eye-lids are closed, and the lips are swollen, so that articulation is rendered difficult and indistinct. Continued the salts in teaspoonful doses three or four times a day.

28th. The inflammation is measurably gone, and the cuticle is scaling off, but assuming a migratory character; it has made its way down the back and loins, where it is quite red and glabrous in patches.

March 5th. The inflammation has disappeared, except from the inner part of one ear.

15th. Much pain has been felt in the ancles and along the tibiæ. The legs are swollen and marked with numerous petechiæ. The palms of the hands and bottoms of the feet are purple and extremely tender to the touch. The gums are hanging loosely around the teeth, and bleed upon the slightest touch. The breath is fœtid.

Give canella alba and snake root in decoction, with tinct. muriat. ferri. Scarify the gums daily, and wash them frequently with diluted tinct. myrrh. Keep the bowels open with pills of aloes and rhei. The drinks to be acidulated; and bread, rice, raw potatoes scraped in vinegar, and mush and milk to be used as diet.

The above symptoms continued, with more or less violence, for weeks, during which time the gums sloughed off, leaving the alveolar processes bare, a portion of which exfoliated, and three of the teeth fell from their sockets. After the gums had become firm and adhered to the teeth, and there was every manifestation to a speedy return of health, the intestines were suddenly invaded by irritation, and every thing swallowed was soon discharged by diarrhœa. The tonics and acid drinks were laid aside, and Dovers powder was given in five grain doses, four or five times a day.

April 10th. The patient has been comfortable three or four days; but the nose, cheeks and forehead are again red and polished with inflammation. Renew the use of sulph. magnes. in such quantity as will produce free purging, then to be continued in a manner requisite to sustain a mild laxative effect.

20th. Medicine discontinued.

The wounds healed kindly by suppurative inflammation, soon after the subsidence of the first Erysipelatous swelling. The appetite was but little, if at all impaired—throughout the whole progress of the disease.

Case 2. March 1st. H——— M—— aged 55 was admitted into the hospital. At this time an affection of the chest, of several years standing, was greatly increased, and accompanied with some fever. The whole of the left leg was swelled and unyielding to pressure.

18th The gums were spungy—the teeth loose–and purple spots were diffused over the body.

22 and 23. A chill, followed by some increase of fever.

24th. A severe chill, terminating in death.

In the above case of the Scorbutic symptoms were not manifest until near its close, when it was too late for appropriate remedies to produce their desired effect.

Case 3*d*. March 20th, 1835.—J——— M—— was carried into the hospital, in consequence of the left leg having been injured, by the falling of a large body of earth upon it. He complained of excruciating pain in the knee, but there did not appear to be any bruise or swelling. Stimulating embrocations were used for several days, and the bowels kept open by occasional cathartics, but without affording any relief. In about two weeks livid spots appeared in a scattered form over different parts of the limb, gradually running into large blotches, until, at length, they had extended themselves over its entire surface. Still the general system seemed to be but little affected, and the discoloration of the limb was attributed wholly to the injury. Four weeks from the accident the right limb became painful, and purple blotches appeared on the thigh. This was soon followed by a full developement of the disease. There was giddiness, difficulty of breathing, pain in the epigastrium and right hypochondrium, all of which became greatly increased on rising from bed. The gums were spungy and disposed to bleed—the tongue was pale and flabby—the throat was swelled and painful—the saliva flowed in profusion—and the pale, bloated, inanimate appearance of the face, threw over the patient, the looks of a breathing corpse, more, than a living man. Several knots were seen and felt along the Flexor Carpi Radialis muscle and upon the cartilages of several of the ribs. Petechia were scatter-

ed in profusion over the arms. The strength of the patient did not at any time fail to such an extent as to render him unable to change his posture, but the reluctance to exercise any of the voluntary powers was carried to a great extreme. Indeed, scarce a word was uttered, or a muscle moved except by positive and unyielding command. During most of this time the radial artery was dilated and jerking, and averaged from ninety to a hundred pulsations. It was not until the expiration of six weeks that the disease assumed a favorable aspect.

After feeling sufficiently restored to leave the hospital, and to engage in light labor, his countenance still retained a death like aspect—yet, he uttered no complaint.

On the 12th of September he was found dead in his hammock, having left Sunday School some time previous. Upon dissection, the stomach was found distended—the colon was contracted and thickened, so that its cavity was scarcely more than one half the natural size. The lungs adhered in several places to the sides of the thorax. The Pia Mater presented a blistered surface, and there was considerable serum effused upon the brain. Three ounces of serum was found in its ventricles, and an ulcer an inch in diameter occupied a portion of its right lateral lobe.

The following is presented more on account of its interesting character generally, than as a case of scorbutus either prominent or singular. Its introduction in this place seems admissible, in consequence of the time when the scorbutic taint became evident, notwithstanding it claims priority in other particulars over cases which it is made to follow.

Case 4th, January 30, 1835, Z———McC——aged 26—entered the hospital complaining of ordinary febrile symptoms. Administered an emetic, followed by cathartic pills and fever mixture.

February 2nd. Had soreness of the throat, with difficulty and pain in swallowing—said the affection was similar to one with which he had been often troubled, and which readily yielded to the use of stimulating gargles. Being in haste, they were accordingly ordered without a particular examination into the character of the disease.

February 5th. The patient said that he had spit out his palate, and inspection confirmed in part, his statement. The entire uvula, and a part of the velum pendulum palati were gone, and the fauces extensively ulcerated. It was now ascertained that syphilis had been lurking about the system for four years, appearing here and there at intervals of a few weeks or months. Calomel had been given in small and mammoth doses, together with such other treatment as circum-

stances required. Still some portion of the disease retained its hiding place.

Ordered lunar caustic to be applied to the ulcers every few hours until the whole were touched, the bowels to be kept laxative by means of Flor. Sulph. and Sup. Tart. Pot.—and a strong decoction of sarsaparilla to be used as drink.

March 1st. The fauces were sound, but there was soreness and pain, in the malar and nasal bones, and there was a bloody discharge from the nose.

10th. Discharge from the nose had increased and in it were found portions of the turbinated bones.

15th. Pulse active—tongue red and dry—extreme thirst—and a dull, pressing pain on the right side of the head and forehead.

Ordered V. S. Ol Ricini and a blister over the seat of pain.

20th. Pulse 45, breathing slow—lay motionless—roused with difficulty—answered questions in monosyllables.

Directed a cathartic—injections—and cold applications to the head.

22d. Sitting up—Pulse 70. septum nasi nearly all destroyed—gums sore and spungy—legs painful and discolored in spots.

25th. Pulse low and intermitting—pain in the head more severe.

27th. Pulse from 45 to 50—comatose—

Administer cathartic and injections.

30th. Pulse less slow—more sensible—frequent dispositions to faint.

June 2d. Pulse again slow—mind dull, but sensible.

4th. Pupil of the right eye dilated—

5th. Insensibility—

6th. Died.

Post mortem appearances. The right anterior and middle lobes of the brain were considerably softened, and their surface besmeared with pus. The left hemisphere having been removed upon a level with the corpus callosum, and the latter being cut through, a substance was dislodged by its own weight and fell upon the floor. It was found to be a firm membranous sack, five and a half inches in circumference, containing a fluid of a green color and peculiar odour. From the softened condition of the brain it was difficult to determine the precise situation which the sack had left, but the right lateral ventricle was considerably dilated, and a large fold of the choroid plexus was tattered and laying loosely within it. The inference is, that it occupied, at least a portion of this ventricle, and that it derived support from its attachment to the plexus. Upon the surface of the brain, and

within the ventricles, there was but little less than four ounces of serum.

The size and condensed structure of this sack, aside from other considerations render it probable that disorganization had been progressing for a considerable length of time—till up to near the period of dissolution no intellectual changes were manifest, beyond the ordinary slowness of thought, consequent upon debility from any other disease.

Case 5th. E———A—was placed upon the hospital list on the third of April. He had pain in the back and loins, at the seat of an old injury. Soon after, the left leg became painful, then the right, followed by several purple spots, especially in the hand. The back and loins were greatly extravasated, and the breathing became difficult. After a time, inflammation seated itself upon the shins and tops of the feet, without much pain or tenderness. As the redness disappeared, the limbs became oedematous. This was followed not only by unnatural diminution in the size of the legs, but from the knee down they were hard and dry, not unlike an anatomical preparation. To us, this form of disease was new, and we were led to make frequent examinations, but for weeks the legs felt like inanimate, useless appendages. In addition to the general evacuant and tonic treatment, various external stimulants were employed, but to none did we ascribe as much efficacy, as to the use of the nitric acid bath.

Case 6th. G———M——was received into the hospital May, 28. His symptoms were soreness of the gums—tenderness of the epigastrium—pain in the loins—pain and swelling in the legs, and purple spots on the breast and arms. In four or five days erysipelas attacked the nose and right cheek and rapidly extended itself over the whole facial surface. At this period the breathing became exceedingly difficult, and in three or four days thereafter there was great oedema of the extremities.

Tonics were administered early but they had an injurious effect upon the inflammation. They were beneficial, however, after the inflammation and activity of the pulse had been reduced by proper evacuants.

Case 7th. J——B——D——was admitted a patient June 25. He had fever—diarrhœa—and great tenderness of the abdomen—

Ordered Ol. Ricini—and the application of a blister to the abdomen.

28th. Small, dry, black spots appeared upon the blistered surface. Poultices were applied—simple cerate—a decoction of oak bark—alum, and a variety of other applications, but the discolored spots increased in number and size, until they

covered nearly the whole blistered surface. At length they sloughed off, leaving an irregular, irritable ulcer. The sprinkling of powdered alum upon the surface, daily, together with the general use of tonics completed the cure.

July 25th. A few days ago there was slight deafness, which has been gradually increasing, and there is great imbecility of mind.

August 2d. From the upper part of the pubis to the penis is a rough granulous discoloration, very much resembling the surface of a large black-berry. It is without pain or soreness.

In the above case a strange hallucination occurred at an early period of the disease, and continued, until health and strength were fully established. The patient imagined that he had two mouths—one for medicine, and the other for food, and he frequently complained that his medicine had taken the wrong direction.

It will be perceived that we have aimed to be general in our remarks, rather than tedious or minute in the enumeration of cases. In describing the treatment too, we have avoided particulars in each individual case, inasmuch as the whole can be summed up in a few words hereafter.

Scarcely a disease was presented, for several months, which was not, more or less complicated with scurvy. If at in its incipient period, there were doubts as to its combined character, the application of a blister rendered it certain. The blistered surface if not timely prevented, assumed a resemblance to that in the last of the above cases. It became exceedingly irritable, and the cure was seldom complete, until the general disease had departed. Of course, they were cautiously adopted as a means of cure, even in those cases, in which under ordinary circumstances, they would have been strongly demanded. The best method to prevent this unpleasant effect, was, to apply a poultice immediately upon the removal of the blister.

As the prisoners were differently employed—so were they differently attacked by scurvy. The shoemakers and tailors —those whose business requires a sitting posture were early affected with difficulty of breathing, tenderness of the epigastrium, and general debility. The stone-cutters and those who who were mostly erect, were first affected in the extremities. In some instances the whole limb became purple from extravasation, without pain, tenderness, or general weakness. At other times attention would be directed to the part, by its soreness and stiffness—Again the leg would be drawn towards the thigh, by firm, muscular contractions, and in consequence of this, the disease was aptly termed, by some of the officers of the prison, *the angle.*

The discolorations, whether the prominent symptom, or of secondary importance, varied in size, from small, barely perceptible spots up to blotches larger than the hand.

The color, too, of these spots was different. In one instance they were bright red, in the other dark or purple. The former has been called by most authors on the subject, petechia, as distinct in its signification—but to us there is great propriety in the classification of Good in this particular. The red petechiæ were generally uncombined with the purple blotches—but at times they were present in the same individual—the former occurring on the arms and breast, and the latter on the legs and back.

The difference in the color of the spots, was owing no doubt, to the blood being in one case arterial, and in the other venous. Less debility attended those cases, in which the spots were red, than in those in which the spots were purple. One of the petechial cases that occurred in the old prison was accompanied by hæmorrhage from the eyes, nose, ears, lips, mouth, bladder and intestines, and it was evidently arterial. The blood passed by stool in this case, was different from that discharged in some of the late cases, in which the spots were purple. In the former instance the passages were of florid blood, while in the other instances, they bore a near resemblance to dark bloody brine.

During the progress of the disease almost every tissue of the body became implicated. Nodes formed upon the tibial, and inferior maxillary bones—the muscles contracted—the tendons were knotty—the cutaneous surface was irritable, inflamed, and in one instance a large carbuncle formed between the shoulders—visceral congestion, to some extent, was common, intestinal irritation advanced to active diarrhœa and painful dysentery; the brain was affected with abscess—Bubo formed in the groin, and in the petechial case, spoken of as having occurred in the old prison, the left axillary glands suppurated extensively.* The suppuration not only continued but increased, as the strength of the patient improved, and the symptoms of the disease subsided.

The treatment of this disease was simple, and to describe it, but few remarks are required. In its incipient stage, cathartics were indispensable, and the necessity of their repetition depended upon their effect. The evacuations were not only needful, as preparatory to future treatment, but to relieve the bowels of their oppressive contents, and to remove

---

* At one period of the suppuration, Iodine was administered in tincture. It was carried into the system and discharged through the diseased gland, so that when the dressing cloths became dry, they were as much stained as they would have been in a short time if the tincture had been poured upon them.

the visceral congestions, which attended, more or less, every case worthy of note. In the more advanced stages of the disease mild laxatives were given, to overcome the costiveness, to which there was a common disposition.

In no disease, more than in this, could the pulse be relied upon, as an unerring index to the proper treatment. Its expanded and rather slow condition, demanded the use of tonics, and a liberal allowance of nutritious food, while a small frequent pulse as forcibly prohibited such a plan of treatment. To change the latter to a more healthful state of the pulse, nothing was so beneficial as the solution of nitre in vinegar, recommended by McPatterson. The solution was prepared by dissolving four ounces of nitrate of potass in a quart of vinegar, of which a table spoonful was given every two or three hours. The frequency of pulse, the abdominal tenderness, and the irritability of the entire frame, was completely under the control of this remedy. It might be expected, that this plan of treatment would be indicated, more by the hardness and force, than any other state of the pulse, but we did not in a single instance in which the scurvy was unconnected with any other disease, find such a pulse—whether small or full it was invariably soft. Even, after the solution had produced its intended effect upon the pulse, some delay was required in the use of tonics, owing to the general irritability of the system. Given at too early a period, this irritability was not only increased, but a still stronger tendency to inflammation was superadded. Our plan was, to administer the solution in smaller quantities, for four or five days, after the pulse had become slow, before resorting to invigorating remedies.

The value of the different tonics were not subjected to a comparison, and consequently we are unable to say which possesses most efficacy, as regards the treatment of scurvy. Canella Alba combined with snake root answered our purpose, and was generally used.

To some extent malt beverages were used, but being easily obtained, water acidulated with vinegar, was mostly drank.

The appetite was seldom impaired, but a strict adherence to a diet of fresh vegetables, was, as far as possible enjoined.

ART. II.

Reports of Surgical Cases. By Alban G. Smith, M. D.

I...Extirpation of the Parotid Gland.

N. G. atat. 47. Called on me with a hard, somewhat irregularly formed tumour, on the right side of his head; involving the lower part of the ear, covering the condyloid process, as well as the whole ramus, and two thirds of the body of the inferior maxillary bone. The tumour was also incorporated with the greater portion of the masseter muscle, and extended an inch, behind the condyloid process. As it was increasing rapidly, I advised its speedy extirpation; and Drs. Cobb and Whitman having examined it with me, pronounced it to be an enlargement of the parotid gland, and concurred with me in the propriety of immediately removing it with the knife. Accordingly, with their assistance and in the presence of the medical class, I operated in the following manner. An incision was made in the direction of the long diameter of the tumour, and the external portions of the indurated mass, carefully separated, chiefly, with the handle of the scalpel. As it was intimately connected with the fibres of the masseter muscle, I was obliged to remove the muscle, and to lay bare the bone. I found considerable difficulty in removing that portion of the indurated gland which lay behind the angle of the jaw, as the patient was constantly writhing in agony. The whole gland was, however, entirely removed. The side of the face, from which the tumour was removed was found, after the operation, to be paralyzed. The wound healed without any unpleasant symptoms, and in fifteen days, he returned home well.

II...Removal of a Calculus from the Bladder by Lithotrity.

Mr. M. from the lower country applied to me in July 1836 with stone in the bladder. I had no difficulty in finding the stone with the sound; it did not appear to be very large. The patients' health was somewhat impaired; and to prepare him for the operation he was put on the use of alterative medicines and mucilaginous drinks. After having used the catheter for several days in succession I introduced my lithontriter.

This was speedily followed by slight inflammation of the bladder, increased pain and difficulty in urinating; but these symptoms were not more violent than those of his usual attacks of this kind, and whether they were caused by the in-

troduction of the instrument or not, I am not able to say. However, I did not use it again until all indications of inflammation and irritation of the bladder and urethra had subsided, which was in about fourteen days, when I introduced the instrument, and readily seized the stone, which was found to be about an inch in diameter. This second use of the instrument was followed by but very slight symptoms of irritation. In four days after this, I operated, and, then, continued to operate every other day until the whole of the calculus was broken down and discharged from the bladder, which was in eighteen days after the first operation. Some of the fragments were pretty large and caused considerable pain in passing through the urethra. At each operation the patient walked nearly a mile to my office, and after it was over back again to his boarding house; and during the intervals of the operations, he often amused himself by walking about the city. A gentle laxative was taken after each operation, and gum arabic water used freely as common drink.

III...Abscess in the Brain from fracture of the Os-frontis.

A boy aged about thirteen years, while riding along the river shore, his horse taking fright, was pitched off, upon the beach, his head striking first. Slight insensibility was produced for a few moments; but he soon remounted his horse and rode home. For several days he complained of much pain in his head, of which, however, he was almost entirely relieved by taking a dose of some active purgative medicine. Seven or eight days afterwards, his mother discovered a swelling over the left eye, extending to the root of the nose. When called to see him, I found that the tumour was occasioned by a collection of pus. The patient was lethargic, and when roused, more or less incoherent in his ideas, with a slow, full and firm pulse. The abscess was opened and active, antiphlogistic measures were recommended. I did not see him again for several weeks. When I saw him again I found him still, in a somnolent and partially insensible condition. On examination I found that the opening into the abscess had healed; but I could distinctly feel some loose portions of bone beneath the integuments. These I removed, without, however, producing any amendment in the symptoms; on the contrary the insensibility increased. Two or three weeks afterwards, I discovered a throbbing in the part, corresponding with that of the pulse. The drowsiness and insensibility still increased, and, finally, convulsions supervened, which recurred at shorter and shorter intervals until he expired.

On post mortem examination, I found the opening, that was

made by the removal of the carious bone, still unclosed, having the dura mater stretched across it. All that part of the os-frontis which is usually occupied by the frontal sinuses was absorbed. The outer lamina of the bone was as thin as a wafer; and at some points were completely removed. The dura mater was entire. On its removal that part of the brain which lies under the superior and right side of the os frontis had an unnaturally white appearance, not unlike a cicatrix. A sense of fluctuation could be distinctly felt in the substance of the right anterior lobe, which was rounded and enlarged like a distended bladder. An incision was made into this part, and eight ounces of greenish pus was discharged. The lining of the abscess or sac was of a firm semi-cartilaginous texture and offered considerable resistance to the knife. It had no connexion with the lateral sinuses of the brain, but was developed in the very substance of the brain itself. The bones of the cranium were remarkably thin over all the region of the abscess, both above and below the orbitar plates.

ART. III.

Adversaria Medica. By John Eberle, M. D.

1. *The use of Veratria in dropsy.*—The veratria has lately been highly recommended as a remedy, (applied externally, by frictions) in hydropic affections. In December last, I employed it by endermic application in four cases of ascites with anasarca of the inferior extremities. In three of these cases the beneficial effects of the remedy were prompt and complete. These cases occurred in the commercial hospital of this city, and were witnessed by a number of medical students. The first case occurred in a patient laboring under chronic diarrhœa, evidently attended with ulceration of the mucous membrane of the colon. He had been affected, for nearly four months with this bowel complaint before I saw him, and at that time exhibited all the symptoms which characterize the advanced stage of this very intractable malady. For this affection, I prescribed half a grain of the nitrate of silver with a fourth of a grain of morphia, three times daily, and six grains of blue mass every fourth evening, together with exclusive liquid farinaceous diet. Under the employment of these remedies the intestinal affection gradually subsided, and at the end of about two months, the diarrhœa appeared to be entirely arrested, the tongue presented a nearly healthy appearance, the skin was less harsh and dry than it had been

previously, and the general feelings of the patient were manifestly improved. The remedies, just mentioned, were now discontinued, but the use of the previous mild and unirritating diet was persevered in. In ten or twelve days after this period, the inferior extremities were observed to be anasarcous, and it soon became evident that hydropic effusion was also taking place into the abdomen. So rapidly did the effusion go on, that in less than a week, the abdomen and inferior extremities were very greatly distended by the hydropic accumulation. The bowels were torpid—the skin dry and warm, and the pulse about one hundred and ten in a minute, contracted and quick. The ordinary diuretics were prescribed—namely, squill, nitre, and small portions of calomel in combination,—digitalis &c., with infusion of juniper berries, parsly and wild carrot seed, but without the slightest favorable impression on the disease. Recourse was now had to the *veratria.* A grain of this substance, mixed with a small portion of lard, was rubbed in over the abdomen, and repeated every six hours. The effect was surprising. Soon after the third application the kidneys began to act, and so copious was the urinary secretion, that (as the patient assured me) in the course of about twelve hours after the third grain was rubbed in he discharged above six quarts of urine. By the time that six grains of the veratria had been thus applied, every sign of hydropic effusion had disappeared. In about a month after having been freed of his dropsical symptoms, the patient began to experience a sense of tightness and oppression in the chest, accompanied with cough and a free mucous expectoration. These symptoms of pulmonary irritation rapidly increased, and in the course of eight or ten days assumed the form of *chronic bronchitis.* The expectoration besame purulent and extremely copious, accompanied with regular febrile exacerbations in the afternoon, and profuse night-sweats—in short, the case presented all the phenomena of confirmed and rapid catarrhal consumption. For these symptoms he was put on the use of the decoction of *rad. cimicifuga racemosa* (black snake-root) taking a small wine glass full, four times daily, of a decoction, made with an ounce of the root to a pint of water. Under the use of this remedy, without any other means, the purulent expectoration, pectoral oppression, and hectic symptoms disappeared entirely in the course of about four weeks. I may observe here, that I have derived more frequent and complete benefit from the employment of this indigenous root, in catarrhal consumption, or chronic bronchitis, than from any other medicinal agent or course of management I have yet employed. This patient is still an inmate of the hospital. He has had no diarrhœa or dropsical

symptoms since he was relieved of these complaints. He is, however, greatly emaciated and feeble, with a quick and contracted pulse, a sallow and dry state of the skin, and a short dry cough, particularly troublesome at night. Stethoscopic examination indicates the existence of tubercular depositions in the lungs.

One of the other two cases which occurred in the hospital, was apparently the consequence of a protracted and badly managed quotidian intermittent. The anasarcous effusion was extensive, accompanied with but a moderate degree of ascites. The *veratria* was used in the manner mentioned above; and by the time that eight grains had been thus applied, the dropsical symptoms were entirely removed. The third case was one of considerable severity. There was general anasarca with much hydropic distention of the abdomen. It occurred in a person whose health had long been impaired by intemperance and exposure; and, like the first case, was preceded by a protracted course of chronic diarrhœa. This complaint was subdued by the use of *sulph. cupri* and *morphia*, and an exclusive mucilaginous diet. In a short time after the diarrhœa was arrested, symptoms of hydropic effusion supervened. The *veratria* was employed as in the other two cases, and with the like prompt and decisive advantage. In less than six days the patient was entirely freed of every sign of dropsical effusion.

In the fourth instance—a case of ascites with general anasarca—the most liberal employment of the veratria did not produce the slightest benefit. This case appeared, in some respects, more favorable for successful treatment than the others. The patient's constitutional vigor and general health seemed to be less impaired, and the disease throughout was attended with less general irritation and suffering than what occurred in the three preceding cases.

2. *Scarlatina.*—This disease has been very prevalent and fatal in this city during the last four or five months. Many instances terminated fatally before the end of the second day; and in a few cases in less than twenty-four hours from the first manifestations of indisposition. Some of these cases were of a congestive character—little or no obvious febrile reaction supervening on the initial state of depression, the patient speedily sinking into a torpid and prostrated condition, characterized by cool extremities, a pale and anxious countenance, and a small, feeble and frequent pulse. In other instances, sudden and vehement febrile reaction succeeded the stage of depression, oppressed the energies of the brain, and speedily terminated in fatal collapse. In the majority of fatal cases, however, death took place at a much later period

of the disease, from the constitutional irritation and prostration caused by the gangrenous ulceration of the throat, and the accompanying gastro-intestinal irritation. It has been said that the simple and mild cases of scarlet fever get well without any remedial aid, and that the malignant and violent cases end in death, in spite of the most judicious treatment.—There is much truth in this observation. Nevertheless, there is in this, as in most other maladies, a class of cases which will terminate favourably *only* when aided by proper remedial management—and these cases are, probably, more numerous than the general result would seem to indicate. In congestive cases—that is, where in the early period of the disease the extremities were cool, the countenance pale or livid, and the pulse small, weak and frequent—emetics composed of calomel and ipecacuanha were, in general, decidedly beneficial. In cases of this kind, this combination is, I think, much preferable to antimony for exciting emesis. I have known much injury to result from the sedative influence of antimony in congestive cases. Calomel, on the contrary, is one of our most useful remedies in the congestive state of fever, and when given with ipecacuanha, we may obtain all the advantages of prompt and active emesis, with the additional benefit resulting from the action of calomel on the system, without the risk of still further depressing the vital energies by a direct sedative influence.

In a few instances, where a very violent grade of arterial excitement succeeded the initial stage of depression, I bled to the extent of producing a decided impression on the system with great advantage. In general, however, I relied on the employment of *tart. antimon.* for moderating the febrile reaction; and usually found it to answer this purpose to my entire satisfaction. To children of from two to five years old, I gave from a fifteenth to the twentieth of a grain every half hour, and was often surprised and gratified to find how speedily and completely the arterial excitement could be controlled in this way. As soon as the febrile reaction or inflammatory state of the disease was moderated, and ulceration commenced in the fauces, I prescribed the free use of *dilute sulphuric acid.* I directed the acid to be employed as freely as the patient could be induced to take it, and continued its use until the patient began to convalesce. Steiglitz, an eminent German physician, declares that sulphuric acid, when freely used, is a remedy of great value in malignant Scarlatina; and my own experience has given me a very favourable opinion of its effects in this disease. I generally requested that the patient should use no other drink than water strongly acidulated with this acid, sometimes rendered more agreeable by the addition of sugar; and I very rarely met with any difficulty in giving it as freely in this way as

was desirable. In cases attended with much prostration, wine and decoction of cinchona, to which a portion of the elixir of vitriol was added, were employed in addition to the acid drink. The cayenne pepper, both as a local and a general remedy, has been much employed during the present epidemic in this city; but its usefulness was by no means equal to what previous experience had led me to anticipate. Except in a very few cases, I have used no direct local applications to the ulcerated fauces. The effort to make such applications in children, is almost always attended with great difficulty, and frequently does more harm than good, by the agitation and violent excitement occasioned by their struggles to resist. The impressions of the sulphuric acid drink on the inflamed and ulcerated fauces, appeared to me decidedly beneficial in this respect; and will, perhaps, generally procure all the advantage that can be expected from local applications.

Since the publication of Hamilton's book on 'Purgatives,' the practice of giving active cathartics throughout the disease, has been very common. I am inclined to think, that much mischief is, sometimes, done in this way. In severe cases of Scarlatina, the mucous membrane of the alimentary canal is very generally in a highly irritable condition, which may be readily converted into actual inflammation, by active purges. The slow, irritative fever which so often follows this disease, is, probably, in most instances, caused by an inflamed state of the mucous membrane of the stomach and bowels; and it can scarcely be doubted, that active purging must tend to the production of this unfavourable condition of the alimentary canal. During the first two or three days, the bowels ought to be freely evacuated by efficient purgatives; but when this has been accomplished, the mildest laxatives or enemata should be employed for procuring alvine evacuations.

3. *Kreosot useful for allaying excessive vomiting.* Elliotson, in an account he has published of the medicinal qualities of this article, declares that he had found it the most effectual remedy for arresting vomiting, he has ever employed. About a year ago, I published a short statement of two cases of cholera morbus, which yielded in a short time to the influence of this remedy. I have recently witnessed another instance of its salutary effects in excessive vomiting. A child about five years old, from indulging too freely in the use of sweetmeats, &c., was seized with severe vomiting, which was, at first, allayed by some domestic remedies. On the following day, the vomiting came on again, and continued to recur, at short intervals, for four or five hours, before professional advice was obtained. Camphor, ether, essence of peppermint, with sinapisms to the epigastrium, and other means, had been tried before I saw him; but with lit-

tle or no obvious benefit. I immediately prescribed the kreosot —requesting that a drop should be given every half hour. The vomiting returned twice after commencing with this remedy; but after the third dose, it ceased entirely, without any subsequent difficulty or inconvenience.

4. *Ulceration of the rectum.* Capt. R—— about nine years ago, after an attack of dysentery, became affected with what was regarded and treated by his physician as stricture of the rectum. Protracted and varied remedial efforts were made to relieve him, but without any material benefit. About three years ago, he came to this city to obtain the professional aid of one of our most eminent physicians. I was at that time requested to see him in consultation with this physician, and the case then presented the following symptoms. The patient was considerably emaciated. He could evacuate no fæces unless they were of a very soft consistence, and when passed from the bowels in a sufficiently cohesive state, they presented a very compressed or flattened appearance. Frequently a considerable portion of purulent matter, mixed at times with blood and mucus, came away with the stools. He almost invariably suffered extremely severe tormina shortly before, and during each alvine evacuation. His appetite was weak and variable, his mind depressed, his body much emaciated, and his physical powers exhausted. No material advantage was obtained from the efforts which were, at that time, made to relieve him.

It is unnecessary to mention the various means that were employed for his relief—Rectum boujies, both medicated and otherwise—balsam copaiva—sulphas cupri—cicuta—alterative mercurials, and enemata of various kinds, were the principal means resorted to. About fifteen months ago, he again came to this city, and requested me to make another effort for his relief.—He was extremely feeble, his skin was dry, harsh, and of a dingy appearance; unless the fæces were nearly of a liquid consistence, he could procure no alvine discharges; more or less purulent matter came away with each stool, and always constituted the last portion discharged. The pain he experienced in the lower part of the abdomen shortly before each alvine discharge was extremely distressing. Neither the patient nor myself expected any very material advantage from remedial efforts, but it was hoped, that his extreme sufferings might in some degree be palliated. With this view, the following course of treatment was prescribed. The bowels were at first freely evacuated by ten grains of blue mass in the evening, with a full dose of castor oil, on the succeeding morning. He was then put on the use of the following pills. ℞. nitrat. argenti.—ʒi: morphia, gr. 8, m.—Divide into 60 pills. One to be taken every morning, noon, and evening. His diet to consist exclusively of arrow-root and rye

mush with boiled milk. He was also requested to take six grains of blue pill, every fourth evening. This course of treatment was continued for nearly five months, without interruption, or the slightest variation. During the first four or five weeks, the bowels were very torpid, but after that period they gradually assumed a more regular action, and before the end of the third month, a spontaneous evacuation took place every twenty-four or forty-eight hours, of a natural appearance, and considerable consistence, and generally with but very little or no pain, either before or during the discharge. The patient's condition continued to improve in every respect, until at last he declared himself entirely relieved; and his general appearance, as well as the character of his alvine evacuations, indicated the entire removal of his disease. Soon after the treatment was discontinued, he left the city, and again entered actively into business. The last time I saw him, which was five or six months afterwards, he appeared to be in perfect health, his appetite and digestion were good, his skin soft, and of a healthy appearance, his mental and corporeal powers active, the weight of his body increased by at least thirty pounds, and the bowels free from all signs of disorder.

5. *Periodical palpitation of the heart.* A woman who came to this city from a miasmatic district on the Wabash, was seized about the middle of last December, with a feeling of faintness, followed soon by violent palpitation of the heart, which continued without abatement, for nearly six hours, and then subsided rather rapidly. During the succeeding night, she felt as well as usual, but at about nine o'clock next morning, she again suddenly became weak and faint, which soon terminated in a second paroxysm of extremely violent and distressing palpitation. Thus the paroxysms of palpitation had continued to recur daily, preceded by a sudden feeling of faintness, for upwards of a week before she applied to me for advice. The patient was of a decidedly nervous temperament, and much weakened by long continued and severe leucorrhœa. During the paroxysms of palpitation, there was at times, much dyspnœa, and the pulse was exceedingly irregular. Regarding it as a case of masked intermittent, I prescribed an antimonial emetic early in the morning. The emetic operated well, but did not prevent the recurrence of the palpitation. Two grains of quina were taken every two hours, during the next intermission. The succeeding paroxysm was much less severe than the preceding ones, and by the further use of this remedy, the cardiac affection was in the course of three or four days, entirely subdued. As the paroxysms of palpitation subsided, however, the patient began to experience a dull, heavy pain in the region of the kidneys, which was much more severe during the day than at night. In a few days after she first experienced this pain in the loins, the secre-

tion of urine became much increased, and the disease soon assumed the character of severe periodical *diabetes insipidus.*— She assured me that from 10 o'clock A. M. to 4 o'clock in the afternoon, she had evacuated more than a gallon of clear and nearly colourless urine, whilst during the intervening portions of time, the secretion was not more abundant than natural. On standing awhile, the urine deposited a copious whitish sediment. This diabetic affection was attended with no other decided symptoms of indisposition, than the aching pains in the loins just mentioned, and a sense of considerable lassitude and sickness.— Here, the quinine did no good. Still regarding the case as an instance of masked ague, recourse was also had to the use of Fowler's arsenical solution during the intervals, but with no benefit whatever. The prussiate of iron (ferrocyanate of iron,) was finally prescribed in doses of five grains every three hours, in conjunction with the sixth of a grain of morphia, every six hours ; and under the employment of these remedies the renal affection subsided entirely in the course of about three days.— But the enemy was not yet wholly subdued. In about a week after the patient was freed from these symptoms, she was seized with a regular tertian intermittent fever, which, after several relapses, and considerable difficulty, was finally, permanently arrested. The patient has since enjoyed a tolerable state of health.

ART. IV.

Observations on the Abuse of Blood-letting. By John Morehead, M. D.

My intercourse with medical students, and with the younger members of our profession, has had the effect of impressing strongly upon my mind the belief, that a propensity to *employ copious venesection*, in cases wherein more experienced practitioners would either wholly omit, or at most but very sparingly use it, may be considered as the prevailing error of their views and of their practice. Actuated by such a belief, I have been led to think that an essay intended to solicit earnestly their attention to the necessity of considering carefully all the features and particulars of a case, before proceeding to employ upon it the lancet, might not be useless. It is therefore for the purpose of illustrating and enforcing that necessity, that I offer for publication the following train of reflections. For my elder brethren, I have no expectation that it will be found to possess any of the attractions of novelty. On the ontrary, I am eager to hope, that with them, all the practical conclusions to which it points, are already fa-

miliar parts and parcels of their own minds; and that the only result of reading it, would be merely to strengthen, by a concurrence of authorities, the similar course of thought, to which they have of themselves been habituated. It is specially for the use of my younger brethren that it is intended. If it shall have the effect of awaking in them a deep and permanent and cautious sense of the vast importance of not resorting to the employment of the lancet, without having previously examined thoroughly and questioned anxiously the propriety of it, my aim will be accomplished—my wishes will be satisfied. It is my sole object to warn them of rocks and quicksands on which I fear that too many have made miserable shipwreck of the lives committed to their charge. Every body has heard of practitioners with whom, in every case for which they did not know exactly what ought to be done, it was a settled rule of practice to make trial of the lancet. So often, likewise, have I heard it said, even of physicians accounted eminent in their profession, that "to prevent their patients from dying, they bled them to death." If such charges have any foundation in truth, (and I fear that they have,) it cannot be altogether superfluous to present some arguments in favor of a more discriminative system of blood-letting.

The free use of the lancet is a measure which produces under states of disease such energetic and decided effects upon the system, that, to the mind of an intelligent physician, who has learned by the sad and bitter teachings of the sick-room to judge of its powers, there are probably no other medical truths more constantly, more vividly, or more influentially, present, than those relating to it. Such a man not merely understands, but, without any glaring impropriety of phrase, may be said to feel, that it is an agent which can never be neutral in its operation; that if not productive of actual good, it must have an inevitable tendency towards ill; that in its capacity, whether for benefit or for mischief, it is possessed not merely of great, but of herculean force; that under the conditions of disease for which in truth it is remedial, no substitute can be found or admitted for it; that when employed however in cases to which it is not suited, results always serious, not unfrequently fatal, but too surely follow its misapplication; that for repairing the consequences of using it when not needed or when improper, no other means exist except the slow and precarious process of nutrition; and that in the circumstances under which its misuse is most actively and certainly mischievous, such reparative process is almost always suspended, and consequently no remedy remains for counteracting or removing the injuries which it has inflicted. Having habitually present to his understanding a strong and lively perception of these truths, such a physician learns to regard a resort to the lancet as of all remediate measures that

which most requires caution, thorough consideration, and anxious circumspection; and to hold, as a solemn maxim of professional conduct, that if it is not employed with a judicious and wise adaptation to the cases in which it is used, it deserves to be viewed with somewhat of the abhorrence that attaches to the knife of the murderer. In his daily routine of duties, he well remembers and duly estimates Boerhaave's axiom, "Nec vere ipse ullum remedium cognosco *quin solo tempestivo usu* tale fiat. I indeed am acquainted with nothing that proves a remedy, except by suitable and seasonable application." But whilst in regard to all remedial means he carries with him in his visitations of the sick a vivid impression of this truth; still, it is especially in respect to the use of the lancet that he is most keenly sensitive to the importance of being guided by it. And the reason why he thus exercises over himself such a perpetual jealousy in deciding upon the question of venesection is at once plain and sufficient. Any errors into which, from any cause, he might be betrayed in his applications of it, would be vastly less reparable, and would be likely to be of much more serious result, than those into which he might fall in his administrations of any other remedial agent.

If such, then, is the habitual feeling—such the settled principle—such the regular procedure—of the physician who has grown old in collecting the lights of books and of experience; will any one deny, will any one doubt, that the younger members of the profession ought, before abstracting from the veins of a patient the purple treasures of life, to subject themselves to what, if possible, should be a still severer self-examination—a still closer and more searching scrutiny—as to the grounds and reasons on which they are meditating with themselves whether to employ the lancet? Surely that such is their duty—and not only their duty, but their clear and permanent interest—is a proposition that will receive from every tongue a ready assent. I am well satisfied, too, that the disposition to acquit themselves of this duty, is a feeling as extensively and as actively diffused amongst them as is the condition of its existence. It is only in one point that they can be held to be behind their elder brethren; not in the zealous desire to avoid, but only in the skill requisite for avoiding, the misemployment of the lancet. As their inferiority in such skill is a matter which they are not only ready to acknowledge, but also earnestly desirous to remedy,—how they can be enabled best and most certainly to correct it, is a question which their seniors should feel themselves bound to assist them in solving. It is in the intention of discharging my part of what I thus feel as an obligation, that I respectfully submit to them my opinions upon that question. As it is one of those problems of which different persons would doubtless come

to very different solutions, I present mine for just so much as it shall seem to be worth.

I am inclined to think that the most effectual mode of assisting them to avoid errors of bloodletting, would consist in a plain and practical exposition of the principal and most common causes that lead into such errors. It seems to me that these causes may be conveniently referred to the following heads.

1. Erroneous diagnosis as to the nature of the existing disease, for example, the mistaking of a neuralgia for an inflammation.

2. Erroneous judgment as to the existing stage of the disease. As for example of an inflammation.

3. Erroneous judgment as to the existing condition of the disease—as for example of a fever, in some conditions of which the lancet would be beneficial—in others, pernicious.

4. Erroneous judgment as to the balance of the advantages and the disadvantages that are to result from the lancet in certain cases, as for example in cases of luxations, in cases of rigidity of the os uteri under parturition.

5. Erroneous doctrine as to the proper mode of treating certain diseases, as for example the regarding of blood-letting as the principal remedy for fevers---for neuralgias.

6. Erroneous judgment as to the proper mode of employing blood-letting, even in the cases for which it is suited.

Under each of these heads, I shall adduce exemplifications from facts that have fallen under my own knowledge.

1. Of erroneous diagnosis.

In the whole range of medical science, there is probably no other truth better ascertained, or of greater value than this : that for inflammation when seated in the serous tissue or in the parenchymatous portion of any of the organs contained in the three great cavities, free and energetic blood-letting is entitled emphatically, to the name of *the remedy*; and all the other remedial means are to be regarded but as subordinate and auxiliary to it. Invaluable as this truth unquestionably is, when presiding over the treatment of the cases that are strictly and really comprised under the terms of its enunciation, yet as there are other diseases of a very different nature, and of not unfrequent occurrence, which bear to these, a very close and deceptive resemblance, it may be well doubted whether from its mis-application to the latter, it has not occasioned on the whole, an amount of mischief sufficient to counterbalance all the good of which it has been productive in the former. No one can be worthy of the name of Physician, who has not the principal and leading characters of peritonitis, of pleuritis and cephalitis, so clearly, and definitely fixed in his mind that on meeting a case of either of them, he should hardly fail of being successful in recognising it. It is nevertheless unfortunately a fact, that there are other diseases widely

different in nature and requiring a very different treatment, which yet resemble them so nearly in symptoms and appearance that they have, in but too many instances, eluded the diagnostic skill and sagacity of even judicious and experienced Physicians, and that the most descriptive and appropriate mode of designating them, would probably be by the names of pseudo-peritonitis, pseudo-pleuritis, and pseudo-cephalitis. That such forms of disease do exist, and are not of rare occurrence is a point, which though not strongly noticed, or pressingly urged in our systematic works, has yet been exhibited by several essayists, and especially, by Marshall Hall, in such prominent relief, that it would almost inevitably arrest and fix the attention of even a careless reader. It is too, a point that must have forced itself on the knowledge of every careful observer. It has also been found that in cases of the pseudo-peritonitis, pseudo-pleuritis and pseudo-cephalitis, copiousness of blood-letting is as injurious as in the true peritonitis, pleuritis, or cephalitis, it is advantageous. Hence in the management of these, more perhaps than of any other cases, correctness of diagnosis is the necessary, the indispensable condition for avoiding ruinous errors of practice. I hope therefore, that it may not be impertinent to place before my younger brethren, the signs that may best serve for distinguishing between forms of disease, at once so apparently similar, and so really unlike.

And first of pseudo-peritonitis. This affection, which is found, I believe, invariably dependent on the presence of some irritant in the intestinal canal, and which hence has been designated, by Marshall Hall, intestinal irritation, exhibits, in a very striking degree, all the prominent and more important symptoms by which true peritonitis is supposed to be essentially characterized. Decided fever, pain and tenderness in the abdomen, augmented by pressure or distension, some fullness or tumefaction of the abdomen, some degree, but not an extreme degree, of intestinal torpidity ; together with smallness, frequency and some hardness of the pulse—these, which are usually accounted the essential symptoms of the latter, are equally present in the former. How, then, is a diagnosis to be established between two diseases which seem so much alike? I am afraid that there is no other mode of establishing it, except by attending closely to the history of the cases, and to the proportions, in which the symptoms are combined. Though the symptoms in both appear to be identical, yet the proportions in which they are presented in the one are different from those in which they exist in the other. These, in truth, are not the only diseases in which diagnosis is to be accomplished not by the detection of pathognomonic signs—but simply by reference to the proportions in which the symptoms are found to be united. The Chemist well under-

stands how greatly compounds are modified in their nature and characters, by mere variations in the quantities of the elements that enter into their composition. The difference between atmospheric air and nitric acid, depends merely upon difference in the proportions of their constituents. To the practical physician, it is even still more important to bear in mind that an analogous truth exists in regard to diseases. Perhaps no other examples could more unequivocally display either its existence or its value, than the two forms of disease that are at present under consideration. As it is most frequently (though by no means exclusively) amongst puerperal women that we have to encounter them, I shall enumerate their distinctive features as seen in the puerperal condition. 1. In the pseudo-peritonitis, the cold stage and the shivering are generally more severe and of longer duration. In peritonitis, they are sometimes very slight, or perhaps have not been observable at all. 2. In the early periods of the pseudo-peritonitis, the headache, the flushing of the countenance, and the foulness of the tongue, are more decided and more prominent; and also there is more tendency to delirium. 3. In the pseudo-peritonitis, the fever is more fluctuating in its intensity—being at some times more, at others less, severe, without any assignable reason. 4. The pain, also, is more variable in its degree, and likewise more apt to shift its location. 5. In the pseudo-peritonitis, there is much less aggravation of the pain produced by moving the patient. Whereas, in peritonitis, motion, or even full inspiration, always causes much additional distress, by subjecting the inflamed parts to some degree of compression, or perhaps even of friction. 6. In the pseudo-peritonitis, the patient's posture is much less constrained, and is more frequently changed by spontaneous movement. Whereas, in peritonitis, she is disposed to lie continually on her back, with her limbs much flexed and her knees elevated. 7. In the pseudo-peritonitis, the pulse is different from what it is in peritonitis. In the latter, it would be expected to present, in conjunction with frequency and smallness, the qualities that are known under the names of hardness and wiriness. Whereas, in the former, these two last qualities would not be distinctly discoverable. As I have frequently observed, however, that in the pulse which one judicious and experienced practitioner would pronounce hard and wiry, another of equal judgment could detect no such qualities, I should recommend to my younger readers not to trust to it as capable of furnishing an absolute diagnostic between two diseases. It can at best furnish only some assistance in our diagnosis. 8. If blood is drawn under pseudo-peritonitis, it shows no buffiness. Whereas, when drawn under peritonitis, it is almost always apt to become buffy. 9. In the commencement of the attack, the seat of the pain and tenderness is differ-

ent. In the peritonitis, they are almost always, perhaps always, felt first in the region of the uterus, and thence extend to other parts. Whereas, in the pseudo-peritonitis, they never commence in that region; but most usually are perceived first about the caput cæcum or the sigmoid flexure. 10. In the pseudo-peritonitis, the lochial discharge undergoes comparatively little change. Whereas, in peritonitis, it becomes either wholly suppressed, or at least much diminished in quantity, and much altered in smell and color. 11. In the pseudo-peritonitis, the os uteri is not found of increased sensibility or temperature; whereas in peritonitis, it is almost always tender to the touch, and somewhat hot. 12. The pseudo-peritonitis is unaccompanied by that most peculiar and striking and distinctive expression of countenance which belongs to puerperal peritonitis. 13. If, as Dr. Marshall Hall advises, we shall resort to blood-letting in the erect posture, as a diagnostic in cases wherein we cannot otherwise satisfy ourselves—a mode of diagnosis, which I knew my earliest preceptor to practice, many a year before the publication of Dr. Hall's works. The patient, under pseudo-peritonitis, can bear the loss of but little; whereas, under peritonitis, she can bear to lose a great deal of blood, without the approach of syncope.

The pseudo-peritonitis, as has been already observed, is not confined to puerperal women. I have repeatedly seen it in men, and also in children. It is only about two months since I had a strongly marked case of it in a delicate, feeble little girl of about six years of age. It was attended, in her instance, by very severe but somewhat variable pain, situated between the umbilicus and the pubes; and by extreme tenderness on pressure. By means of the first seven—but more particularly by the assistance of the third, fifth and sixth—of the diagnostic differences just enumerated, and by the history of her attack, I came to my conclusion respecting the nature of her disease. By a free use of alterative cathartics, of Dovers' powder, and of fomentations, I had the satisfaction of seeing her, in about nine days, conducted to convalescence from an illness under which, if I had treated it with copious blood-letting, I have no doubt that she would have sunk.

The records of obstetrical medicine furnish instances enough, of cases resembling peritonitis exactly in their symptoms, and as such, subjected to the vigorous use of the lancet, in which, however, upon the post mortem examination, not a trace of inflammation could be detected by the most scrupulous search.

In abdominal disease, pressure, applied carefully with the hand, constitutes one invaluable means of investigating its nature; but it would be a most important, and often-times a fatal error, to regard tenderness augmented or detected by such pressure, as

invariable evidence of inflammation. It is a very sufficient ground of suspecting it, and a most energetic warning to be on our search for it. But wo to the patients of that physician who shall act upon it as an invariable and pathognomonic sign of its existence. The value of pressure however, as a means of diagnosis, depends in some degree upon its mode of application. It ought to be applied very gradually, and with the flatted hand. If inflammation is indeed present, I believe that when so applied, it will always produce aggravation of pain, proportioned in some measure to its amount. But in other cases, when it is so applied, the augmentation of pain which it causes, is not so proportioned. Sometimes, in cases which are not of an inflammatory character, if made very slowly, and continued for some time, instead of augmenting the pain, it serves rather to mitigate it.

Though the presence in the intestinal tube of any irritant even of such as improper food, may prove sufficient to excite the pseudo-peritonitis ; yet, in this region of country whether it occurs in puerperal women or in other subjects, it is found to arise far more frequently from that state of morbid secretion which in popular language is denominated "bilious," than from all other causes taken together. When it depends upon that cause, the active employment of calomel, as our only means of correcting the mis-secretion, may be considered as the leading part of the treatment. It requires to be conjoined, however, with the administration of compound extract of colocynth, or some similar cathartic article, of Dover's powder in liberal doses for the purpose of relieving pain, and promoting perspiration, of fomentations over the abdomen, and when the head is much affected, of cold energetically applied to it.

The affection that in the second place, I am to notice, pseudo pleuritis, is considerably more frequent in its occurrence, and fortunately is also of easier diagnosis than that which has been just described. In it, as in pleuritis, the most prominent and urgent, because the most distressful feature is that kind of pungent severe pain situated in some part of the thorax which is so well known under the popular name of a stitch, or stitches. In pseudo-pleuritis, as in pleuritis, this pain is found conjoined with fever more or less decided, with difficulty of respiration, with inability of full distension of the lungs, with cough more or less frequent, with all the symptoms in short, that are enumerated as the distinctive characters of pleuritis. In both cases the lancinating intensity of pain which is induced by coughing or sneezing, or changing posture, or any other action that tends to expand the chest, is the symptom which from implicating most deeply the patient's feelings, constitutes the chief subject of his complaints, and is most importunately urged by him on the Physician's attention. Similar, however, as these affections thus on

first view appear to be, yet there may be found upon a more minute and careful examination, sufficient grounds of distinguishing between them. The proportions in which the symptoms are observed to be combined in pseudo-pleuritis are widely and strikingly different from those in which they occur in pleuritis.

1. In pseudo-pleuritis, the fever is not so energetic, so decisive, so continued, in other words, it bears a less proportion to the severity of the stitch than in pleuritis.

2. In pseudo-pleuritis, the pulse though it is usually quite as frequent, yet has not the strength, hardness, and firmness that belong to it in pleuritis.

3. In pleuritis, the pain is never wholly absent. Though its extreme and lancinating violence is usually not felt except when the patient makes some exertion, or causes in some way, dilatation of his lungs, still some degree of it is constantly present. He is indeed never free from a sensation of some gnawing sharp and rankling evil infixed somewhere in his chest which he is conscious that any movement or effort will aggravate into indescribable anguish. Hence he endeavours instinctively to keep himself still, whereas in pseudo-pleuritis, so long as he remains quiescent, and allows but slight expansion of his thorax, he feels as if the pain had ceased to exist, though fully sensible that an attempt to change his position, or make a deep inspiration would at once recall it in all its energetic acuteness.

4. In pleuritis, pressure on the intercostal spaces of the affected part augments the pain, whereas in the pseudo-pleuritis it has no such effect.

5. In pleuritis the patient cannot attempt a full inspiration without producing a fit of coughing as well as an aggravation of the stitch; whereas in pseudo-pleuritis if he inhale the breath very gradually and cautiously, he may expand his lungs to as great an extent as the stitch will permit, without exciting cough, or at least without exciting much of it. This, in most cases, is one of our most useful diagnostics.

6. From the conditions of pain already enumerated, a diagnostic dependent on them, and intimately connected with them, is furnished by the state of the respiratory function. In pleuritis, the respiration is hurried, short, and catching. In the pseudo-pleuritis, though it is not full or slow, yet it is much less hurried, disturbed, and nervous.

We shall be a good deal assisted in understanding the exact force and application of these diagnostics, by adverting to some facts that have a bearing upon the pathology of pseudo-pleuritis. The form of pain, which from being unaccompanied by fever or inflammation, and from being supposed to have its seat specially in the pleura, has obtained the nosological designation of pleurodyne, and which, from its resemblance to the pain of

pleuritis, is in common with it known under the vernacular name of stitch, is found to occur under considerable diversity of circumstances. Sometimes it occurs suddenly, without any other evidence of indisposition, and immediately after enduring some violent exertion; as for example, in boys while running or leaping, or in men while making some great efforts of strength. In such cases, it in general becomes subdued pretty speedily by tying a handkerchief or some other bandage around the thorax, to prevent its dilatations, and by observing for a time a state of quiescence. In other cases, it seems to be produced by exposure to cold. Thus I have often known persons, without any other assignable cause except such exposure, to awake in the morning affected with it very severely, but without any other manifestations of disease. I have myself, in consequence of having been called out of bed in cold nights, been repeatedly so affected. In such instances, I have found it to yield speedily and certainly to an embrocation consisting of equal parts of the liniment sapon. cum opio and of aqua ammoniæ, freely applied over the part, and conjoined with the application of a bag of hot meal or salt—with the administration of a full dose of Dover's powder, and with quietude in bed. In other cases, the pleurodyne appears to be a strictly rheumatic affection. This I conclude to be the fact from having often met it associated with well-marked rheumatism, seated in other parts. When of such a character, it sometimes proves, like other members of the rheumatic family, stubborn and unyielding; but on the whole is controlled more effectively by the vinum colchici, than by any other means I have ever tried. In other instances, by no means rare, it arises from the presence of some irritation in the digestive system—especially from what in this western country is so familiar under the name of the 'bilious state.' When it presents itself in connexion with the bilious condition, it is not unfrequently associated with fever, and sometimes also with catarrhal affection. Such a union of complaints—pleurodyne, fever and catarrhal cough—occurring in conjunction with the bilious state, is precisely that assemblage of symptoms which I have intended to designate under the name of pseudo-pleuritis, and which it is expressly my aim to warn my young brethren upon the importance of distinguishing from pleuritis. In the formation of it, the bilious affection may well be regarded as primary and fundamental; while the other symptoms can hardly be considered otherwise but as superinduced and secondary. In addition to the general similitude of its symptoms to pleuritis, it resembles it also in some other particulars. Exposure to cold, acting on a person previously prepared by a bilious habit, can usually be traced as the cause immediately exciting its attack. The season, too, in which it is most apt to be met, the cold

months, to-wit, of winter, and the bleak, changeable, comfortless weather of our early spring months, is the same in which the other is most prevalent. Each of these resemblances contributes to augment the difficulties of correct diagnosis, and to swell the chances of falling into mistakes. As the one requires a treatment widely different from that appropriate to the other, these various sources of error only enjoin and impose upon us the necessity of being more cautious, circumspect and deliberate in investigating all the particulars of any given case, before coming to our decision respecting its character.

The leading and important parts of the management of pseudo-pleuritis, or pseudo-peritonitis, consists in the vigorous administration of calomel, conjoined with some such cathartic as extract. colocynth. comp., for the purpose of correcting and removing the state of bilious mis-secretion which constitutes its fundamental condition of morbidity. To relieve the pleurodyne, however, it is necessary to unite with it the use of the other means already enumerated—viz. of the Dover's powder—of heat topically applied by bags of hot meal or salt—and of an embrocation composed of equal parts of liniment sapon. cum opio and aqua ammoniæ, or of hot spirits of turpentine. Blistering I have rarely found to be necessary. But in some cases, when the other topical applications had not proved of the desired efficacy, I have had recourse to it with decided advantage.—Blood-letting I have never employed in cases that were wholly under my own charge. When, however, I have known it used to any considerable extent in cases that have come in consultation under my observation, the conclusion has invariably forced itself upon my mind, that it had been seriously, sometimes fatally, detrimental. In many of the patients whom I have seen subjected to copious detraction of blood, I have observed a state of great prostration to be pretty speedily induced—characterized by small, frequent, feeble pulse—by subsultus tendinum and hiccough—by great muscular debility—and by a tendency to syncope, in the erect position—and running, though not always, yet in but too many instances, into a fatal termination. Tartarised antimony, likewise, except when employed as an emetic to evacuate the stomach of morbid contents, I have found to be rather injurious, by its depressive action. The effort of vomiting generally causes great aggravation of the pain, without seeming, so far as I have been able to judge from what I have witnessed of its effects, to produce any permanent and final mitigation of it.—Still, if the foul or oppressed condition of the stomach should clearly indicate the propriety of resorting to emetics, I should not hesitate to employ it in conjunction with ipecacuan. Also, if for any reason the Dover's powder could not be administered—for example, on account of the nauseousness of its taste, or

its offensiveness to the stomach—a good substitute for it may be found in a combination of laudanum with spiritus mindereri and minute portions of tartarised antimony. Thus the two agents which constitute the chief remedies of pleuritis, are found to be at the least not necessary—and sometimes to be positively detrimental in the pseudo-pleuritis. In cases, however, in which notwithstanding all our pains to determine it, the diagnosis should still remain doubtful, prudence would require that for the purpose of obtaining additional evidence and satisfaction respecting it, we should abstract a few ounces of blood under the erect position, and by a large orifice.

The correctness of the views, Mr. Editor, which I have just expressed, was well exhibited in the case of Mrs. B., which, about fourteen months ago, I called you to see with me in consultation. In that case, as you will remember, the pleurodyne was intense, and excruciating—the fever considerable—the cough a good deal troublesome, but having its cause seated evidently not in the lungs, but about the fauces—the respiration much impeded by the stitch ; total inability of full expansion of the chest, in consequence of the aggravation of the pain—the bilious state so marked and so decided, that, for about two weeks, the alvine discharges continued of the darkest-green color, approaching almost to black, and of gelatinous consistence. Regarding it, with me, as a case, not of pleuritis, but of pseudo-pleuritis, you concurred with me in treating it without recourse to the lancet, and upon the plan already described—a plan which resulted in complete success. From the deep debility which in the latter part of its course it presented, I am well satisfied that if we had subjected our patient to one such decided bleeding as pleuritis requires, she must have sunk (and rapidly too) into such prostration as all the resources of our art could not have prevented from progressing into death.

It is not solely in adults that such disease shows itself. A few nights ago, I was waked up about two o'clock in the morning, by urgent cries of distress, uttered by my own little girl—a child a little more than 5 years old. For several days previous, she had been using medicine on account of a bilious affection, attended by occasional fever, and by catarrhal cough. On the night to which I refer, she had gone to bed apparently somewhat better, and was taking for her cough and feverishness, occasional portions of a mixture consisting of a weak solution of tartar emet.—of laudanum and spirit. etheris nitrosi. About two o'clock, as already mentioned, she aroused me by calling on me, with piercing cries of agony, to do something for a pain of her side, which had seized her some time in the course of the night. On examination, I found that it was seated along the left side of the sternum, about the cartilaginous portions of the sixth, sev-

enth, and eighth ribs ; and that motion of her person, or the dilatation of her chest, in the act of respiration, greatly increased it. The little creature appeared to be in a state of extreme suffering —and entreated me with tears to press upon her side. Her fever was much increased since I had last before going to sleep observed it ; and fits of spasmodic coughing every now and again came on her, which added greatly to the poignancy of her distress. Her pulse was strong and frequent—her breathing short and quick, but not oppressed ; it was such as we usually see in children when affected with fever. On placing my ear over the parietes of the thorax, I could discover nothing unnatural or unhealthy in the respiratory sounds. Pressure with the points of my fingers over the intercostal spaces, produced no aggravation of her pain ; and such compression with my extended hand as was sufficient to restrain the thoracic movements and dilatation, was a source to her of manifest relief. As may readily be conceived, it became a problem to me of intense interest to determine whether she had in truth become seized with pleuritis, or only with a pleurodyne, supervening upon her bilious disease. The facts that pressure over the intercostal spaces, caused not an increase, but rather an abatement, of her pain—that her breathing was free from pulmonary embarrassment—and that her fits of coughing, though more severe and occurring more frequently, were still of the same character that they had exhibited the previous day, and were not induced by attempts at full inspiration, persuaded me finally to regard the pain as pleurodyne, and to treat it, not with the lancet, but by the means already enumerated. In about an hour and a half, I had the satisfaction of finding her so far relieved by a gradual mitigation of her distress, that she dropped into an easy sleep, which continued until morning, and from which she awoke quite released from all pain, and apparently as well in all respects as she had been the preceding day. Had I treated her case as pleuritis, by a large bleeding, she would at the least have been much reduced by it in strength, and without obtaining from it any ultimate advantage.

(To be continued.)

Polygonum punctatum or hydropiper.

Doolittle & Munson Sc.

ART. V.

On the Emmenagogue powers of Polygonum Hydropiperoides. By John Eberle, M. D.

I have heretofore published a short account of the emmenagogue virtues of this plant; and further experience with it has fully convinced me that it possesses very valuable powers as a promoter of the menstrual evacuation. There are several species of polygonum, equally common in this country, resembling each other very closely; and I have reason to believe that some of my professional brethren, who have not obtained emmenagogue effects from its use, have mistaken the P. *persicaria*, which is nearly inert, for the P. *hydropiperoides*. I am the more inclined to think that this has been the case, from the remark of Professor Geddings, in his review of the last edition of my *Therapeutics*, that the dose I there mention (a tea spoonful of the saturated tincture) can exert but little influence on the system, as he had known the decoction to be taken by pints without any very obvious effect. But even if, in this instance, the proper plant was used, water, it must be observed, extracts its active qualities much more imperfectly than proof spirits. I have repeatedly found a tea-spoonful of the saturated tincture too large a dose. In some instances, the first dose produced a peculiar thrilling, tingling sensation throughout the whole body; in a few other cases, it invariably gave rise to painful sensations in the stomach; and in one instance, after five or six doses had been taken, it excited copious watery diarrhœa. In all cases, so far as I have observed, it increased the frequency of the pulse by eight or ten beats in a minute; and, in nearly all instances, I have found its use attended with slight aching pains in the hips and loins.

This species of *polygonum* is an extremely common plant or "*weed*" throughout every section of the United States. It is familiarly known by the names of *water-pepper*, *smart-weed*, *biting knot-weed*. "The stem rises to the height from about twelve to twenty-four inches, and is slender, smooth, branching, and erect. The leaves are lanceolate, very acute, and end at the base in a short, compressed, sheathing petiole. The stipules are truncate and pubescent. The flowers are in one or two simple slender spikes, and of a pale pink or white colour. It flowers from July to September." The *pale* green colour of the whole plant, and the white, or nearly white flowers, will assist in distinguishing it from the other species resembling it—these having a much deeper green, or purplish colour, and bright red flowers.* The taste of the polygonum hydropiperoides is extremely acid.

* See the accompanying plate.

Proof spirit is the best menstruum for extracting its active properties. I have generally employed it in the form of a saturated tincture. The extract made with diluted alcohol is also an excellent preparation. The dose of the tincture is a tea-spoonful two or three times daily; of the extract, from five to eight grains may be given at a dose.

The following short reports of cases will serve to illustrate the emmenagogue powers of this remedy.

1. In the summer of 1834, Dr. Herron, house surgeon of the Commercial Hospital of this place, employed the *tinct. polygonum* in the case of a young woman, an inmate of the Hospital, who had laboured under amenorrhœa for upwards of fifteen months. Her health was considerably impaired—she was subject to nervous affections, and frequent intense cephalalgia. The pulse was generally weak, contracted and somewhat accelerated. A tea-spoonful of the tincture polygon. was administered four times daily. On the second day, she complained of dull pain and uneasiness in the loins and hypogastrium. On the eighth day after commencing with the use of this medicine, the menses made their appearance, and continued to flow for four days quite profusely. Doctor Herron employed this remedy in two other cases in the Hospital, with equally decided emmenagogue effects. One of these cases occurred in an epileptic patient, who had not menstruated for many months. On the tenth day of using the tincture, the catamenia returned very copiously.

2. In March, 1834, I was requested to prescribe for a young woman residing in Mr. Blatchly's family, in this city. She had long been affected with catamenial irregularities, and for the last four or five months with entire suppression of this function.—By the use of the *tinct. polygonum* for nine or ten days, the menses were fully restored.

3. Mary Muller, aged about 19—of a full and robust habit—suffered sudden suppression of the menses in July, 1835, from having bathed her feet in very cold water, while the catamenia were flowing. The immediate consequence of this imprudent act was a sudden attack of violent spasmodic pain in the stomach and bowels, succeeded by severe hysteric spasms, delirium, and partial insensibility. This attack was succeeded by complete amenorrhœa, which had continued for five months before I was consulted. Her general health was evidently impaired. She was pale and languid ; complained of want of appetite, and frequent headache ; the pulse was about 80, considerably full, but free from tension or hardness. She was put on the use of the *tinct.* polygonum, and was to begin with it five or six days before the usual catamenial period. On the fifth morning after she commenced taking the medicine, the menses came on, and continued to flow, in a regular manner, for four or five days. I

have recently been informed, that the patient has since continued to menstruate, with entire regularity.

4. Miss J—, aged about 19 years, had, for upwards of twelve months, laboured under catamenial irregularities. The menstrual effort recurred at the regular periods—but the secretion was extremely slight, and continued only a few hours at each return. She experienced no particular pain at these periods—but her general health was manifestly impaired. The face was, at times, much flushed ; the pulse quick, sharp and accelerated ; the bowels generally torpid, and the feet cold. She was frequently seized with palpitation, and a distressing feeling of sinking or faintness in the epigastrium. After she had taken a few laxative doses of blue mass and aloes, she commenced taking the *tinct. polygon.* She took the usual dose—namely, a tea spoonful three times daily. After she had continued its use four or five days, she was seized with rapid and painful diarrhœa. The use of the medicine was, therefore, suspended until the disorder in the bowels was subdued. She then took a smaller dose—about two-thirds of a tea-spoonful—and continued its use until, in about ten days, it brought on so profuse a sanguineous discharge from the vagina, as to require means for moderating it.

5. Miss M., aged 24, had not menstruated for five months. It did not appear that her health had suffered any material injury from the suppression. Her mother, however, felt anxious to have the catamenial function restored. The *tinct. polygon.* was prescribed—which had the effect of bringing on a free menstrual discharge in less than a week.

6. Mrs. L., aged about 27 years—of a nervous temperament, and feeble habit of body—stated that she had not menstruated since she weaned her second child, which was more than two years previous. During the last three months, she had suffered much from severe attacks of hemicrania, and her digestive organs were much disordered. The pulse was small and somewhat accelerated. The patient's digestive organs and general health having been somewhat improved by a course of dietetic and medicinal measures, recourse was had to the tincture of polygonum, for the purpose of restoring the menstrual function. After she had taken the tincture about twelve days, the menses made their appearance, and continued to flow freely for several days.

ANALYTICAL DEPARTMENT.

—

ART. VI.

Lectures on the Nervous System, and its Diseases;—By MARSHALL HALL, M. D. &c. &c. London, 1836, 8vo. pp. 171.

The author of this volume is a favorite and successful contributor to our professional literature. His previous publications deservedly rank among the most interesting and valuable works that have of late years, been issued from the press. His treatise on the effects of excessive loss of blood, is particularly instructive, and ought to be in the hands of every physician.

The volume now before us, is devoted to the consideration of a highly interesting class of maladies. The extensive and pervading agency of the nervous system in the development, modification, and constitution of diseases, renders the study of its phenomena and various states, whether healthy or morbid, of the deepest interest to the pathological inquirer. Too little attention, we apprehend, is in general paid to morbid, nervous excitement, as an essential element of disease, in the reasonings and views of physicians, concerning the phenomena and nature of febrile diseases. The sanguiferous system, on the other hand, is, we think, too exclusively regarded, even in this class of maladies. Some look upon mere increased or decreased momentum of the blood, as the correct rationale of the rise and nature of nearly all diseases; with others, morbid vascular excitement, inequilibrium of the circulation, and congestion constitute the fundamental and only pathological elements of fever; and we have an ingenious pathologist in the west, who sees in the congested or torpid portal circulation the true Pandora's box, whence all imaginable diseases, from a tooth-ache to an apoplexy *foudroyant*, emanate.

We are far from regarding the morbid conditions of the sanguiferous system, as of secondary consequence, in febrile diseases. It would be absurd to deny, that the pathological state of this system, forms a predominant element in this class of maladies. We are nevertheless, disposed to think that the fundamental morbid condition—that essential pathological state, which determines the form and general character of febrile affections, consists mainly in diseased excitement of the nervous system.—In the congestive intermittent fever of the Mississippi, a total collapse usually ensues immediately after the first febrile paroxysm. The surface becomes cold and clammy, and the pulse cea-

ses to beat in the extremities. Can it be supposed that these phenomena are the result solely of the accumulation and remora of the blood in the interior organs? They depend, most probably, on a peculiar adynamic state, or depression of the ganglionic system of nerves, and consequent inactivity of the capillary system, as well as of the heart;—and it is to this morbid state of nervous function, mainly, and not merely to the disordered balance of the circulation, that we would ascribe the characteristic phenomena of the disease. Again, what constitutes the radical difference between typhoid and synochal fever?—It does not certainly consist in mere difference in the grades of arterial excitement. The essential difference, it appears to us, must be sought in the different degrees and modes of nervous disorder, attending these forms of fever. In synochal fever, the manifestations of diseased nervous excitement, are, in general, but slight. The sensorial functions are seldom particularly affected, and delirium is by no means a common symptom. In typhoid fever, on the other hand, early and constant delirium, and conspicuous sensorial disorder are characteristic phenomena. In the former, the arterial excitement is energetic, and the general powers of the system are not remarkably depressed. In the latter form of fever, the heart and arteries act feebly, and the vital energies generally, are depressed. All these circumstances point directly to the morbid states of the nervous system, as the essential pathological conditions, whence the characteristic phenomena of these forms of fever proceed. But we are wandering from our proper subject.

The contents of this volume are divided into twelve lectures. The first lecture is taken up with observations on the anatomy and physiology of the nervous system. In relation to the anatomical division of this system, the author entertains some peculiar views. Hitherto anatomists have divided the nerves into the cerebro-spinal and the sympathetic, or ganglionic. To these subdivisions, he has added a third, namely, the true spinal, or *excito-motory* nerves—a subdivision "which he claims the merit of first pointing out, in all its fulness." The *excito-motory* nerves preside over "all the functions which relate to the immediate acts of *ingestion* and *egestion*, and over *all* spasmodic affections." The author moreover regards the fifth and posterior spinal nerves "as constituting an external ganglionic system, destined for the nutrition &c. of the external organs." He therefore, divides the ganglionic division of nerves into the *internal*, comprising 1. the *sympathetic*. 2d. the *pneumogastric:* and the *external*, comprising 1. the *5th*, and 2. the *posterior spinal* nerves. In illustration of his views on this subject, the author mentions the following circumstances. "A horse was felled by a blow with an axe over the anterior lobes of the brain. He lay mo-

tionless for a short time, and then began to breathe, which he continued to do, with the diaphragm. When pricked or lacerated with a nail or pin on any part of the face or surface of the body, not the slightest manifestation of sensation was observable. But when the eye-lash was touched with a *straw*, forcible contraction of the orbicularis, and consequent closure of the eye-lid instantly took place. When the cornea was touched the eye-ball revolved outward, by the action of the *abducens*; and slight irritation of the verge of the anus caused strong and sudden contraction of the *sphincter*, motion of the tail and vulva. The upper part of the medulla oblongata was now destroyed.—Immediately after this was effected, not the slightest contractility or action of the eye-lid, and eye-ball, was manifested on the application of stimuli. "Now I imagine," says the author, "that it will not be disputed, that the blow of the poll-axe in this case completely annihilated the cerebral or sentient and voluntary functions; and that a peculiar set of excito-motory phenomena remained. If the spinal marrow of a frog is divided below the occiput, all power of spontaneous motion is, at once, completely extinguished. Yet, if in this state, you pinch a toe with a forceps, the posterior extremities are immediately thrown into strong contractions. If then, the whole spinal marrow be destroyed, you can no longer excite the slightest contraction by pinching, or any other mode of exciting. To prove that the contractions thus excited, are not motions of irritability, the following circumstances appear to be conclusive. If, after the spinal marrow is completely destroyed, and when the motions in question, can no longer be excited by any degree of excitation, a slight galvanic shock be applied to the inferior extremities, forcible muscular contractions instantly take place.

"Is not the proof," observes our author, "from these experiments, of the distinction between the motions of volition, of the excito-motory system, and of these, from those of irritability perfectly and unequivocally complete?

"I have detailed the experiment of a horse felled, and reduced to a state of insensibility by the poll-axe. No infliction upon the skin by a pin, or other pointed instrument, was felt—no voluntary motion induced—but the touch of a straw, applied to an eye-lash, or the cornea, immediately induced forcible contractions of the orbicularis palpebræ, and the abducens oculi. There can be no doubt that a filament of the first branch of the fifth pair of nerves, or trifacial, conveyed the impression to the medulla oblongata, and that a filament of the seventh pair, or facial, re-conveyed it from the medulla oblongata to the orbicularis, or the abducens nerve, to the abducens muscle of the eye. All this is wonderful, and I believe hitherto quite unknown to physiologists."

The author has ingeniously applied these views concerning the nervous system, to the explanation of various physiological and morbid phenomena, which have hitherto been regarded as inexplicable.

The *second* Lecture is occupied with remarks on the general pathology and therapeutics of the nervous system. It appears

from facts related by the author, that the fifth and seventh pairs of nerves are more complex than was asserted by Sir C. Bell.—"The former, includes excitor and nutrient nerves with the nerve of sensation." When the action of this nerve is disturbed by *cerebral* disease, the functions of its *sentient* filaments alone, are affected—that is, impaired *sensation* is the only effect; but when this nerve is compressed or affected by a *tumor within* the cranium, all its distinct functions, excitor, nutrient, and sensitive, are at once destroyed. Thus in paralysis of one side of the face, from disease of the opposite hemisphere of the brain, the eye-lid still retains its power of closing, and the nostrils their susceptibility to the impression of irritants, and nutritive secretion goes on as before, whilst sensibility is more or less completely impaired. When, on the other hand, the fifth pair of nerves is diseased *within* the cranium, the loss of sensibility is generally, complete, the nostril loses its susceptibility to the impression of stimuli, and the eye eventually, not being nourished, shrinks, and collapses.

"The seventh pair of nerves, comprises pure cerebral and true spinal nerves; the cerebral, only, is affected in hemiplegia, and the orbicularis retains its power; all are paralysed by the pressure of a tumor below the ear, and we have paralysis of the sphincter of the eye-lid. This remark leads me to observe that *ptosis* is a cerebral paralysis, whilst *lagophthalmia* is one of the true spinal system, and to this latter system, strabismus also belongs."

It is well known that disease in one hemisphere of the cerebrum or cerebellum, or on one side of the tubar annulare, always produces paralysis on the opposite side; but the fact, that disease confined to "one of the lateral columns of the medulla oblongata and medulla spinalis, affects only the *corresponding* side of the muscular system," is not so generally known. It has, moreover, been ascertained that lesions of the cerebrum "induce *paralysis* only"; whilst injuries done to the medulla oblongata and spinalis, give rise to *convulsions*, or paralysis, according to their severity. M. Fleurens has ascertained that injury of the tubercula quadrigemina, have "a crossed effect, both of convulsions and paralysis." It would appear, moreover, from the researches of M. M. Foville, M. Serres, M. Bouillaud, and others, that affections of the corpus striatum, or rather of its *middle lobe*, "induce paralysis of the *inferior* extremities"; whilst lesions of the thalamus, or of its *posterior lobe*, induce palsy of the *superior* extremities. It is proper to observe, however, that M. Lallemand, and Audral, declare this statement to be without foundation. The author's observations on the etiology of convulsive affections from *disease* of the encephalon, are particularly interesting. He expresses his conviction "that the *whole* order of spasmodic and convulsive diseases belongs to the *excito*-motory division of the nervous system—and that they

cannot be understood without a previous accurate knowledge of this system."

"All these diseases have their source in *one* of the three parts of the excito-motory system. The first series have their origin in the spinal marrow itself—the axis or centre of the system: I shall designate these cases by the epithet *centric*. The *second* series of spasmodic affections have their source in the excitor nerves, consequently at a distance from the centre; these I shall denominate *ex-centric*. A third series occurs, like the spasmodic tic of the seventh pair, in the course of the motor nerve. The prognosis, in these affections, depends almost entirely upon this distinction. The centric diseases are, for the most part, incurable; the ex-centric affections, on the contrary, generally admit of cure. Thus epilepsy is sometimes centric, and incurable; frequently it is ex-centric, arising from gastric or intestinal irritations, and cases of this kind often admit of cure. So, convulsions, associated with cramp-like symptoms, may arise from irritation within the cranium or spinal canal—such cases almost always terminate fatally. Or the disease may arise from dentition, a cause acting on the excitor branch of the fifth pair; such cases will generally yield to appropriate remedies."

In all, or nearly all, spasmodic diseases, says Doctor Hall, the parts most directly concerned in ingestion and egestion—"the orifices and exits of the body"—are strongly affected. In the convulsions of children, in epilepsy, and in puerperal convulsions, the *larynx* is spasmodically *closed*. The condition of the larynx, and of the respiratory motions, says the author, "affords an important diagnosis between epilepsy and hysteria. In the former, the larynx is usually closed with forcible expiratory efforts; in the latter it is open, with heaving, sighing breathing."

The following fact is given to show that the convulsions which arise from excessive hemorrhage depend on *spinal*, not cerebral, irritation. A sheep was killed by dividing the spinal marrow and entire neck, so that the head remained attached to the body only by the skin and large blood-vessels.—"The blood-vessels were, then, divided, and the effects of the flow of blood watched. After a certain hemorrhage had taken place, the animal was violently convulsed. The convulsion could therefore only be *spinal*."

Of the therapeutics of the nervous system. In reference to the spinal or excito-motory division of the nervous system, *strychnine* is obviously a very powerful and peculiar excitant; "whilst the hydrocyanic acid as obviously diminishes its excitement. Electricity and galvanism, too, are important means for exciting the energies of this system. The dashing of cold water on the face and body, is sometimes exceedingly beneficial in the true class of spinal affections." In epilepsy, it tends to relax the spasmodic constriction of the *larynx*, and "to convert the violent *expiratory* struggles into acts of sudden and deep inspiration." The author thinks that counter-irritation applied along the spine, is not, in general, as much employed in spasmodic affections as it deserves. He has derived very great ad-

vantage, in an anomalous affection of the kind, from the "persevering use of a liniment consisting of two drachms of liquor potassæ, and the liquor ammoniæ puræ, with twelve of soap liniment." He is inclined to believe that "a lotion of the hydrocyanic acid might be applied with advantage in some cases of *true* spasm."

In the *third* lecture, the author treats of *congenital states of the nervous system; asphyxia, its remedies, &c.* On the *asphyxia* of new-born infants, he makes some interesting observations. In such a case, he says, all our efforts must be instantly made to *excite* inspiration.

"What are the *channels* through which this act may be excited?—the *fifth*, the *pneumogastric*, and the spinal nerves! The fifth pair of nerves must be excited by *forcibly* dashing *cold* water on the face—by stimulating the nostrils by ammonia, snuff, &c. The *spinal* nerves must be excited by *forcibly* dashing *cold* water on the thorax, the thighs—by tickling or stimulating the sides, the soles of the the feet, the verge of the anus. If these attempts to excite respiration, through the fifth and spinal nerves, fail, we must endeavour to excite the *pneumogastric* nerves, by artificially inflating the lungs, so as to imitate the respiratory function."

Should these efforts fail, he advises the application of galvanism—even though the lapse of an hour or more take place before a proper apparatus is procured. Experience has convinced us fully, that the common practice of immersing still-born infants in *warm* water, is calculated to do mischief. Dashing *cold* water, by sprinkling, on the face and breast, produces a shock in the nervous system—especially in the respiratory nerves—which frequently causes immediate respiratory actions. The warm bath, on the contrary, instead of exciting, tends, rather, to exhaust the dormant vital powers, and certainly is much less calculated to rouse the action of the respiratory nerves, than the sudden and *forcible* application of cold water. When the respiration is once established, efforts must be made to restore the *temperature*, by gentle frictions, and the external application of warmth.

The *fourth* lecture is devoted to the *cerebral* diseases of infants. These affections, the author divides into, 1. *encephalitis;* 2. *tuberculous hydrocephalus;* and 3. *hydrocephaloid diseases.* We can see no good reason, however, for dividing what he calls tuberculous hydrocephalus from encephalitis; for in the course and character of their symptoms, they do not differ materially—the only distinguishing circumstances, according to the author, being, that the latter is produced by *external* causes, as a *blow* or *fall* on the head, and is not connected with *hereditary* predisposition. The *first* symptoms of these maladies, depend on *excited* or irritated *cerebral* functions—such as distressed expression of the countenance, fretful temper, contraction of the brows on exposure to light, or being moved or disturbed; restlessness

and starting during sleep, more or less intolerance of light and sounds, and frequently great sensitiveness of the skin. After these symptoms have continued for an indefinite time, "a more formidable class of symptoms appear, belonging to the *excito-motory* system." These are vomiting, strabismus, "a contracted state of the muscles of the thumb or finger, or some unequivocal *spasmodic* or *convulsive* affection of the *respiratory* muscles, or of the muscles of the *limbs.*" The third stage is characterized by symptoms depending on *oppression* of the brain, in connection with those which arise from *irritation* of the spinal or excito-motory system of nerves. "There is blindness, deafness, deep stupor, and absence of voluntary motion." Towards the close, the excito-motory functions become more and more oppressed, until they cease. "The respiration becomes irregular, alternately suspended and sighing, and at length sterterous. The sphincters lose their power, and the fæces and urine are passed unconsciously." The author's plan of treatment in these maladies does not differ materially from that which is usually pursued in this country. It must of course be energetically antiphlogistic. In addition to the most decisive blood-letting, both general and local, "the system should be brought under *the mercurial influence as promptly as possible.*" This we regard as a most important remedial measure—one which can never be properly omitted in the treatment of this very formidable malady. The constant application of pounded ice to the shorn scalp, while the feet are frequently fomented with hot water, or otherwise kept quite warm, is a far more valuable remedy than either leeching or blistering about the head. The bowels should be freely evacuated with mercurial purgatives.

The author asserts that "in the comatose and convulsive affections which occasionally supervene to acute anasarca, especially the anasarca which follows scarlatina in children, the most prompt and energetic employment of the lancet, is the only remedy of any real value." We are inclined to believe that this observation is well founded. Within the last fifteen months, two instances of this kind have come under our notice. In one of these cases, apparently the least violent, recourse was had to sinapisms, purgative enemata, opiates, calomel, and moderate leeching at the temples. This case terminated unfavourably. The other case—coma, succeeded by violent convulsions—was treated chiefly by very decisive blood-letting, both general and local—large doses of calomel, and revulsives—with a favourable result. Both cases occurred in children, after scarlatina.

The author's observations on the *hydrencephaloid* affections, appear to us particularly interesting and useful. These complaints require a treatment directly opposite to that which is demanded in acute hydrocephalus or cephalitis. From the close

resemblance which they, usually, bear to acute hydrocephalus, they are, but too often, confounded with it, and treated, consequently, by antiphlogistics—a treatment which must almost inevitably prove fatal.

The hydrencephaloid disease depends mainly on *exhaustion.* The exhaustion may arise from diarrhœa, or chronic cholera infantum; but its principal source, we apprehend, is "the inappropriate or undue employment of exhausting remedies—particularly the immoderate application of leeches, or use of the lancet." Many young practitioners, says the author, "are apt to think that if they have only bled, and purged and given calomel enough, they have done their duty; when, in fact, in subduing a former, they have brought on a new disease, which they do not understand, and which but too often leads to fatal results." The morbid effects of exhaustion, in infants, have not been sufficiently attended to by the profession. They are briefly noticed by Dr. Abercrombie in his work on the *diseases of the brain and spinal cord*; and by Dr. Gooch, in his "*account of some diseases peculiar to women*"; but almost "all our works on infantile diseases, are silent on the subject."

The malady denominated by the author hydrocephaloid disease, may be divided into two stages: "the first, that of irritability—the second, that of torpor." In the former, there is a moderate degree of arterial reaction—in the latter, the vital powers are more depressed. There is, thus, a general resemblance in these two stages, to the corresponding stages of acute hydrocephalus or arachnitis.

"In the first stage, the infant becomes irritable, restless and feverish; the face flushed, the surface hot, and the pulse frequent. There is an undue sensitiveness of the nerves of feeling, and the little patient starts on being touched, or from sudden noise; there are sighing and moaning during sleep, and screaming; the bowels are flatulent and loose, and the evacuations are mucous and disordered in appearance. If, through an erroneous notion, as to the nature of this affection, nourishment and cordials be not given; or if the diarrhœa continue, either spontaneously or from the use of purgatives, the exhaustion which ensues is apt to lead to a very different train of symptoms. The countenance becomes pale, and the cheeks cool or cold; the eye-lids are half closed, the eyes are unfixed and unattracted by any object placed before them, the pupils unmoved on the approach of light; the breathing, from being quick, becomes irregular and sighing; the voice becomes husky; and eventually, if the strength of the little patient continue to decline, there is a crepitus or rattling in the breathing; the evacuations are usually green, and the feet are apt to be cold."

"A similar train of symptoms occurs in cases in which the strength of the little patient has been subdued by the abstraction of blood. In both cases, leeches are sometimes again applied, to subdue the new form of disease, under the mistaken notion of a primary cerebral affection. This measure infallibly plunges the patient into imminent, if not irretrievable, danger. Stimuli often reduce the frequency of the pulse, and restore the wonted warmth, colour, expression and smiles to the countenance." p. 67.

The author asserts, that the condition of the *cheeks*, in regard to colour and warmth, is the most important diagnostic

symptom in cases of this kind. "It is from the condition of the cheeks," he says, "in conjunction with a due consideration of the *history* of the case, that the diagnosis of this morbid state, and the indications of the appropriate remedies, are chiefly to be deduced. The general surface, and especially the hands and feet, also afford important sources of information as to the state of the nervous powers."

"The remedies for this morbid affection, are such as will check the diarrhœa (where this has been the source of exhaustion.) and afterwards regulate the bowels, restore and sustain the strength of the little patient. With the first objects, it may be necessary to give the tinctura opii and chalk, and afterwards the pilula hydrargyri, rhubarb and magnesia; with the second, sal volatile, but especially brandy and proper nourishment are to be given, according to circumstances. But in this, as in so many cases of infantile disorders, the young milk of a young and healthy nurse, is the remedy of most importance—in the absence of which ass's milk may be tried, but certainly not with the same confident hope of benefit. For the state of irritability, the warm bath is a remedy of great efficacy. For the coma, a small blister or sinapism should be applied to the nape of the neck. In every case the extremities should be kept warm by flannel, and the circulation should be promoted in them by assiduous frictions. *It is of the utmost importance, carefully to avoid putting the little patient into the erect* posture." p. 68.

The *fifth* chapter is occupied with the subject of "*The convulsive diseases of Infants; on paralysis.* Upon this subject the author has contributed nothing of particular interest or value. We pass on to the next chapter, which treats of the "*Diseases of the nervous system in adult age.*

The author divides these affections into 1. the *cerebral or sentient and voluntary*; 2. the *true spinal or excito-motory;* and 3, *the ganglionic, the nutrient, the secretory, &c.*

Cephalitis. The symptoms *first* manifested are those of disturbed *cerebral* functions; symptoms of disordered *spinal* and *ganglionic* functions follow in their turn. The earliest symptom is *pain* or cephalalgia, varying in intensity and situation.—With this symptom, *sensorial* acuteness is frequently associated. There is intolerance of light, and sound, and sometimes of the skin to touch. "The *next* symptoms are affections of the mental faculties:—sleeplessness, disturbed sleep, and delirium;—sometimes moroseness, stupor, &c. The symptoms which belong to the *spinal* system, and which more or less speedily, follow the first manifestations of *cerebral* disturbance, are first,—*vomiting*, then *strabismus*, and finally, decided *spasmodic*, or convulsive affections. The morbid phenomena which depend on disorder of the ganglionic system are more obscure, the pulse is frequent and tense, the bowels constipated; but the secretions are only slightly affected." The symptoms of this malady do not, however, always follow this regular train of development. Some cases "are marked almost solely by violent delirium;" in other instances, convulsion is the first symptom; and sometimes

intense head-ache is the prominent symptom. In general, inflammation of the meninges is "more marked by acute pain, delirium, and convulsions"—whilst inflammation of the substance of the brain, is more characterized by "muscular contractions, alternating with, or followed by paralysis." The second stage of encephalitis is characterized by diminished sensorial and mental powers. The pain and delirium "subside into insensibility and stupor—the spasmodic, into paralytic affections." Finally, the true spinal symptoms predominate; there is permanent strabismus, difficulty of swallowing, interrupted and laborious breathing, relaxation of the sphincters, with paralysis and convulsions. Our own experience has furnished us with several striking illustrations of the importance of attending to the following advice. "One event," says the author, "I must point out to you in an especial manner. From insensibility, the patient does not void the bladder; this viscus becomes excessively distended, and there may be a stillicidium urinæ. In *every* case of insensibility, in *every* case of involuntary discharge of urine, examine the hypogastric region."

"There is another *practical* fact of much importance, to which I must draw your attention: not only the dawn, and the cause of encephalitis are insidious, but its termination is particularly so. In some cases, an unexpected state of *sinking* takes place, in which the symptoms, whether pain or delirium, subside, and the patient is thought to be convalescent. The same event occurs in some other diseases, especially enteritis. Beware of this fact, and suspect some such insidious change, unless *all* the symptoms concur to denote returning health."

The author asserts that the inflamed brain is *tumefied.* "This fact," he says, "explains the occurrence of pressure and its various effects on different parts of the encephalon, frequently situated remotely from the part affected by inflammation." The following observations, in relation to blood-letting in this disease, appear to us particularly worthy of attention. The benefit which may be obtained by this remedy, is frequently lost, and even converted into mischief, by an injudicious manner of employing it.

"The efficacy and safety of blood-letting, in this disease, depends on its prompt and efficient administration. I believe the *only* satisfactory mode of the institution of this important remedy, is that which I have pointed out, in my work on blood-letting. The patient is to be placed perfectly upright, looking upwards, and bled from a good orifice to *incipient syncope.* In this manner alone, can we adapt the remedy to the nature and violence of the disease, and the strength of the patient. This mode of blood-letting guards us against some terrible mistakes, and yields an important diagnosis. There are some diseases so *similar* to encephalitis, that the most experienced physicians cannot be absolutely certain, what a given case may be. These cases would be brought to a fatal issue, if the same quantity of blood were withdrawn as is both proper and necessary in encephalitis. Adopt the rule for blood-letting which I have proposed, and you will be saved from the danger of inefficient blood-letting in the case of inflammation; and of undue blood-letting in the other cases, so similar to it in appearance, yet so different from it in reality.—If it be inflammation, much blood will flow before the lip becomes pale; if it be

the other kind of disease to which I have alluded,—such for example, as in certain cases of delirium tremens, and encephaloid affections from exhaustion or intestinal irritation,—very little blood will flow before that event occurs. The cold douche (letting cold water fall in a small stream upon the top of the head) is a powerful remedy in encephalic inflammation. It is important that the head should be raised, and the feet fomented and kept warm. Active purgatives, and nauseating doses of tart. antimony, are, also, powerful auxiliaries."

Lecture seventh is devoted to the consideration of "*congestion* and *hæmorrhagy in the encephalon.*" The diseases considered under this head are, *apoplexy* and *paralysis.* When apoplexy depends merely on sudden violent encephalic congestion, the pulse is, from the very commencement of the attack, *strong* and *full,* and the countenance flushed. When the apoplectic attack is the result of hæmorrhagy or extravasation of blood in the brain, "there are symptoms of shock inflicted upon the nervous system." Paleness, vomiting and fainting ensue, to which, loss of speech, coma and paralysis, more or less speedily succeed, and the pulse is, at first, *small* and *feeble,* becoming stronger and fuller afterwards. Apoplexy from rupture of a vessel and extravasation of blood in the brain, is *always* attended with paralysis. When the attack depends on vascular turgescence or congestion, paralysis does not occur.

In relation to blood-letting in the treatment of apoplexy, the author states that when the disease is the consequence of mere congestion "there is always extreme tolerance of the loss of blood" —whereas, in apoplexy from rupture and extravasation of blood, "the system is extremely, and even dangerously susceptible of this loss." In the former, a large quantity of blood must be drawn before any decided impression is made on the vital energies; in the latter, a moderate portion of blood abstracted is often sufficient to induce great exhaustion of the powers of life.

"In addition to an attention to these circumstances, I must impress on your minds the importance of placing your patient in the perfectly upright posture, before the blood is allowed to flow; watch his countenance, his breathing; keep your finger on his pulse; and the moment the slightest indication of approaching syncope takes place, arrest the flow of blood, and place your patient recumbent. If early syncope occur, trust the future to local depletion by means of cupping to the occiput and the neck. If the patient lose a large quantity of blood without change, pursue and repeat the remedy boldly; his life depends upon ample depletion of the sanguiferous system. Add to the energetic use of the lancet, that of the cupping instrument. The head should be washed with a spirit lotion; and the feet fomented, or involved in ample bran-poultice and sinapisms alternately. The bowels must be daily freely purged; and the diet must be mere barley-water." p. 101.

Hypertrophy of the brain. It is not yet generally known among physicians, that the brain may become *hypertrophied,* or acquire an increased size, disproportioned to the cavity of the cranium—a condition which must, of course, produce the effects of cerebral compression. This affection has been but recently distinguished from other forms of encephalic disease. We owe

our knowledge of it, principally, to M. M. Bouillaud, Dance, Scoutetten, and Andral.

"The brain, in this hypertrophied state, is at once larger and paler than natural. In this latter particular, it differs from inflammation or congestion—in which, there is also a degree of tumefaction. On opening the cranium, the dura mater seems ready to burst: on removing this membrane, the convolutions of the brain are so firmly pressed together, that the intervening triangular spaces have disappeared. The symptoms are those induced by cerebral compression: after long-continued pain in the head—loss of intelligence and muscular power—convulsions—epilepsy."

The *eighth* lecture is devoted to the consideration of those *cerebral diseases which result from various affections of the system.* Among the different complaints most apt to give rise to sympathetic or secondary disease of the brain, *intestinal irritation* is, undoubtedly, the most influential and frequently concerned in this way. When the alimentary canal contains materials of an irritating character—such as indigestible food—scybala, acrid secretions, &c., and the vital energies are depressed by any cause, capable of producing a *shock* of the nervous system—as a fall, or other serious accident, parturition, a surgical operation, &c., cerebral disease is peculiarly apt to be developed. The symptoms which usually occur in such affections of the encephalon, are, "rigor, frequently severe heat of the surface, violent pain in the head, and intolerance of light and sound—the symptoms, in short, of the most acute cephalitis." There is nevertheless the greatest difference between these irritative affections of the brain, and true inflammation of this organ; and it is of the utmost importance that a correct diagnosis be formed, before active depletory measures are adopted. In the former affection, copious blood-letting would almost inevitably prove fatal; whilst in the latter, prompt and profuse abstractions of blood are indispensible to success. The diagnosis, however, is generally attended with much difficulty, and can seldom be *confidently* established "without the criterion afforded by the effect of blood-letting in the erect posture."

"The first step to be taken, in a doubtful case, is very slowly to administer an enema, of from three to three and a half pints of warm water—and to examine the state of the fæces, and observe the effect upon the disease and upon the system. If there be scybala; if the symptoms be subdued; and especially if there be faintishness, the case is indubitably not cerebral inflammation, but intestinal irritation. If the case, however, still remains doubtful, prepare the arm, open a vein, and then place the patient upright, and let the blood flow until the lips become pallid: if the case be encephalitis, an extreme quantity of blood will flow, even thirty or forty ounces, or more, before there is any appearance of syncope: if it be intestinal irritation, syncope occurs before one-fourth of that quantity of blood has left the circulating system." p. 109.

In lecture *ninth*, the author treats *"on the diseases of the cerebral nerves."* We have already observed, in the early part

of this article, that in paralysis of sensation of the face, from the division or disorganization of the *fifth* pair of nerves *within* the cranium, the eye gradually perishes, and becomes totally destroyed. Yet when the paralysis arises from the division of this nerve in its course, *exterior* to the cranium, or from mere injury of the brain, the eye remains entirely unaffected. "This extraordinary fact was first ascertained by M. Magendie, and was afterwards observed by M. Serres, and has lately been verified by Doctor Alison, Mr. Stanley, and other observers." The following interesting case, of this kind, is reported by Dr. Abercrombie.

"The patient had loss of common sensation of the left side of the face, the left nostril, and the left side of the tongue, with insensibility of the ball of the eye, and occasional bloody discharge from the left nostril. There were frequent attacks of inflammation of the left eye, with dimness of the cornea, which were relieved from time to time by the usual antiphlogistic means. At the end of two months, however, a line formed round the base of the cornea, which at length sloughed out, and the contents of the eye were entirely discharged. The muscles of the left side of the jaw were paralytic, and felt quite flaccid when the patient chewed or clenched the jaws; but the motion of the muscles of the cheek was unimpaired. The patient died in about a year after the destruction of the eye in a state of coma. On post-mortem inspection, there was found considerable *softening* of some of the central parts of the brain; and on tracing the fifth nerve backwards, it was found very dense in structure, close by the ganglion; but beyond this, it was much wasted; and at its junction with the tubar annulare, nothing but the membrane seemed to remain."

It has been a subject of considerable dispute, whether the sense of *taste* resides at the *tip* or at the *root* of the tongue. Scarpa, from a series of experiments made by him, on this subject, concludes that this sense is situated at the *tip* of this organ.—This question involves another one—namely, whether "the nerve of taste be a branch of the *fifth*, or the *ninth* or glosso-pharyngeal; the former being distributed upon the tip, the latter upon the root of the tongue." These questions have been, recently, thoroughly investigated by professor Panizza. An interesting account of his enquiries, on this subject, is published in the Edinburgh Medical and Surgical Journal, for January, 1836. The conclusions at which he arrived, are, 1. "that the sense of taste resides towards the base of the tongue, in the filaments of the *ninth* or glosso-pharyngeal; 2. that the sense of touch in the tongue resides near the point, in the filaments of the fifth; and 3. that the *twelfth* is the true myo-glossal or *motor* nerve of the tongue."

There is an interesting case related by M. Gendrin, illustrative of some of these points. One of the glosso-pharyngeal nerves was *atrophied* by the pressure of a tumor.

"The sense of touch remained perfect throughout the whole extent of the tongue, the pain produced by the prick of a needle being as acutely felt in the atrophied as in the healthy moiety of this organ. Cold and heat produced

the same sensation in both sides. Substances of taste—as the hydrochlorate of soda, acetic acid, and the extract of colocynth—were successively applied to each half of the tongue. In the atrophied moiety, they produced but a very slight sensation of taste, and that only seven or eight minutes after their application; on the healthy side of the organ, however, the application of these substances was immediately followed by the most lively sensations of their peculiar tastes."

We conclude this article with a few observations on *sympathetic*, or, as the author calls it, *ex-centric epilepsy*. The principal causes of sympathetic epilepsy are, *gastro-intestinal* and *uterine irritation*. "I have so frequently known," says the author, "a patient subject to this form of epilepsy, experience an attack within five minutes of eating some indigestible food—or on experiencing a deranged condition of the bowels—or on every return of the catamenial period—as to leave no doubt upon my mind as to the agency of these causes in the production of epilepsy." This form of epilepsy is to be viewed as *curable*, however *difficult* it may often be to effect a cure. We are inclined to think, that physicians, in general, fail in their efforts to cure this malady, from a want of *sufficient perseverance* in the employment of suitable remedial means. We have, repeatedly, known a course of treatment pursued for six or eight months, without any material advantage, and yet complete success finally obtained by a further perseverance in the same plan of treatment. In one instance, of an inveterate character, under our care, the treatment was continued, with no material variation, for nearly thirteen months, before the disease was finally subdued. Another point, also, has appeared to us too much neglected in the remedial management of this disease—namely, a careful attention to *dietetic* regulations. In cases depending on intestinal or gastric irritation, a mild and unirritating diet is, we are convinced, of much greater importance than seems to be generally imagined. About two years ago, a striking exemplification of the benefit resulting from proper dietetic regulations in this malady, came under our notice. A little girl, about ten years old, had been affected with epilepsy for nearly four years. She was brought to us from the country, with a written statement from the physician who had attended her, of the course of treatment she had undergone, under his care. From this statement, it appeared that she had taken, among other remedies, the nitrate of silver, and oxyd of zinc, in efficient doses, during a period of seven or eight months, but without any obvious advantage. In our prescription for the case, we enjoined a rigid adherence to a very mild unirritating diet—such as rye mush and milk, arrow root, rice, chicken, lamb, mutton or beef broth, together with the use of the nitrate of silver in half-grain doses three times daily. Under this treatment, the disease yielded before the end of the third month; and we have recently learned it has not since returned.

ART. VII.

Observations on the nature and treatment of calculous diseases, by BENJAMIN W. DUDLEY, M. D.

We have, here, the result of the experience, observations and reflections of one of our most distinguished surgeons, touching the nature and treatment of a most distressing malady. We do not perceive however, that he has added any thing new or particularly interesting to the existing stock of knowlege on this subject—unless, indeed, it be the really remarkable facts, that he has performed the operation of lithotomy one hundred and thirty-five times, and that out of this large number of cases, *not more than four terminated fatally.* This is certainly an extraordinary degree of success; for if we except the somewhat questionable statements of Martineau and Santarro, (the former of whom is said to have lost 2 out of 83, and the latter, only 1 in 56 cases,) the records of surgery furnish us with no well authenticated example of a similar fortunate course of lithotomic operations. In a recent number of the *British and Foreign Medical Review*, it is stated, that out of 1200 patients lithotomized at L'Hotel Dieu and La Charite at Paris, there are reckoned 945 cures, and 255 deaths. Saucerotte of Luneville obtained much more remarkable success, curing 1482 out of 1629 patients. Dupuytren lost 61 out of 366. At the Leeds Hospital, of 197 operations, 28 proved fatal. Cheselden lost 24 out of 213 operated on; Frere Come, 19 out of 100. Under Souberbielle, 17 died out of 133. Crosse has given a very exact table of 704 operations for stone, at the Norwich Hospital, of which 93 only, were followed by death. Of 401 cases of lithotomy, at Naples, in the last few years, 60 deaths are recorded. Pajola lost 5 out of 50: Pansa, 5 in 70; Ouvard, 5 in 60; Viricel, 3 in 83; Professor N. R. Smith, (of Baltimore,) estimates his losses as 1 in 18; Chelius in Germany, as 1 in 22; Petrunti at Naples, as 1 in 25; and Dr. Dudley (of Kentucky,) as 1 in 72.* A success so uniform as that which has attended the practice of Dr. D. is certainly *prima facie* evidence of more than ordinary tact and skill in lithotomic operations.

Dr. D. does not hold the operation of lithotrity in high estimation, and asserts that it is only in a comparatively small number of cases—namely, "when the calculus is soft and small, the bladder, prostate, and urethra healthy, and the system unexcitable," that it can be resorted to "with some degree of safety and success." "The medical public," says the author, "is yet to

* This refers to a statement published by Dr. D. several years ago.

be informed in regard to the particular effects of large straight instruments upon the parts involved in this mode of removing calculi. The experience of Messieurs Civiale and Heurtoloup enables them to communicate some interesting information upon the pathology of the testes, vas deferens, prostate gland, and bladder, as they may have observed it consequent to the use of their instruments." We would ask the author why he apprehends so much injury from the introduction of a large and straight catheter into the bladder, since he tells us in one place, "that a straight instrument, and one of much larger dimensions than the common catheter may be passed without any particular difficulty into the bladder;" whilst in another place he asserts that "*the bruising even to laceration of the soft parts, by the use of instruments in the extraction of calculi, need not be so much feared in its consequences*, as those are inclined to imagine, who have formed their opinions from injuries done to other parts of the system." In speaking of his operations, he states that "an incision in the neck of the bladder, from one half, to three fourths of an inch in length, answered for the extraction of calculi varying from four to nine, and in one instance eleven inches in circumference. Notwithstanding the *necessary laceration* of these parts, in the passage of the calculus through the incision, yet every one recovered." In one case which he relates, he states, "that after a long and varied effort to grasp the calculus with the forceps, during which, the bladder and prostate were dilated and lacerated, the opening was made large enough to admit of its extraction. But the force used with the forceps was sufficient to have drawn the patient off the table, and yet he recovered in the usual time and without any untoward symptom." Now we would ask, which of the two operations would be most likely to produce "carcocele of the left testicle, disease of the prostate, vas deferens, or of the bladder," the one which is performed with an instrument, which can be "passed into the bladder, without any particular difficulty," and without any wound or laceration, or the operation which requires "long and varied efforts with the forceps, to grasp the stone, and force sufficient in extracting it, to draw the patient from the table, and to lacerate the bladder and prostate gland? The author objects to the operation of lithotrity, because it cannot be performed with safety, "when the bladder is ulcerated, inflamed, or highly excitable, or when the prostate gland is diseased, or the urethra contracted and inflamed." What degree of success would he expect from the operation of lithotomy—especially if it should require "long and varied efforts, and force sufficient to lacerate the bladder and prostate," in cases of this character? We apprehend that most of these conditions would

be equally unfavorable to the performance of lithotomy and lithotrity.

Whatever objections may be urged by lithotomists, against the operation of lithotrity, it is evidently gaining ground in the estimation of the profession, both in Europe and in this country. That it is preferable to lithotomy, whether in regard to the sufferings or the safety of patients, in cases where the bladder, prostate and urethra is healthy, and the calculus neither very large nor hard, the facts and testimony already before the public, can scarcely permit an unprejudiced mind to doubt.

The observations of M. Amussat, (in a late discussion at the Royal Academy of Medicine, of Paris, on the comparative merits of lithotomy and lithotrity,) give, we think, the correct view, on this subject. The two methods of operating, he says, are not directly opposed to each other, each having its special indications. "We have not to determine, generally, whether one operation be better than the other, but what cases we should select for the one or the other mode of operating." He divides calculus cases into two classes, and claims for lithotrity "all cases where the bladder is healthy, and the concretion small, even though there be two or three calculi present, and also where the calculus is of considerable size, provided it be soft and friable." To the lithotomist, he says, should be left all patients with large calculi, particularly such as are of a firm consistence, or filling the bladder, or complicated with vesical catarrh, or chronic inflammation of the mucous membrane of the bladder. "At first," says M. Amussat, "where the operation was performed by successive perforations of the stone, I found, amongst my patients who applied to me, about an equal proportion suited to each method; but since the great improvement in the instruments, (it might also be said the different plan of performing the operation, the *lithontriptic* method of M. Heurteloup,) I operate by breaking down the calculus in at least *two thirds* of my patients, and practice lithotomy more and more rarely." Lisfranc declares after very considerable experience with the new mode of operating, that "lithotrity ought to be the general rule, and lithotomy the exception."—Doctor Randolph, of Philadelphia, has performed the operation of lithotrity in eleven cases with the most complete success; and it is worthy of remark, that in one of these cases the calculus was both "very large, and very hard," and the bladder, withal "very irritable, and so contracted it would not retain the urine for a longer period than an hour, sometimes not longer than half an hour"; in another of his cases, "the bladder was exceedingly sensitive and irritable"; and yet, in both instances, the operation succeeded well, without any unfavorable consequences. We have recently witnessed this operation, performed

by Professor A. G. Smith, with entire success, and with but little pain or inconvenience to the patient, although the calculus was neither very small nor soft. "It may be considered a matter of some surprise," says Dr. Randolph, "that the surgeons of this country should have been so tardy in resorting to the operation of lithontripsy. This hesitancy, however, we know to be the natural and invariable attendant upon the adoption of every new and important discovery." This operation, moreover, demands much study, care, and experience, to acquire adequate dexterity and confidence in the use of the lithontriptic instruments, and is, besides, "less brilliant than the old method of cutting." It will not enable the surgeon to drag forth the enemy from his hiding place, and hold him up in triumph to the astonished spectators—nor will it enable him to exhibit the extraordinary exploit, of bringing three patients into the same chamber, "one a man of sixty, another of seventy-five, and the third a boy ten years old," and finishing them off, one after the other, "in less than forty minutes, including the time engaged in making preparations for each." This did our author achieve! And, on another occasion, he would have done the same feat, had not the third patient given him the slip, "when two of them had been operated upon"—"otherwise, it is possible," (we think it highly *probable*,) "the whole number might have been placed in bed in less time than the first." But to give our readers a full comprehension of the author's dexterity in extracting calculi from the bladder, we subjoin the entire paragraph, commemorative of the achievements to which reference has just been made.

"In six different instances," says Dr. D., "I have operated on two patients in immediate succession, and did not, with any couple, occupy more than twenty minutes, including all the time bestowed upon the preparations of the second after the first patient was removed from the table. On one occasion, three subjects were ready for the operation at the same time. One a man of sixty, another of seventy-five, and the third a boy ten years of age, all of whom were operated upon in the same chamber in less than forty minutes, including the time engaged in making preparation for each. At another time, three were ready; and when two of them had been operated upon, the third could not be found, having absconded from fright; otherwise, it is possible, the whole number might have been placed in bed in less time than the first." p. 28.

ART. VIII.

Practical Observations on various subjects relating to midwifery, By James Hamilton, M. D. Professor of medicine, and midwifery &c. in the University of Edinburgh. Edinburgh, 1836, 2 vols. 8vo. pp. 317 and 422.

The present work does not claim to be a full and systematic treatise on midwifery. It professes to be a record "of those deviations from the established modes of practice, in several ordinary affections of women, which the experience of nearly half a century has led the author to adopt and recommend." Whether all these "deviations" are entitled to the merit of *improvements*, has, we know, been questioned; and on some points at least, we cannot but think that it will be better to adhere to the "established modes of practice," than to follow the author's "deviations." Without doubt, however, the author's opinions and conclusions in relation to the subjects he discusses, are entitled to great respect—and on some important points of practice, we regard his peculiar views as highly judicious, and worthy of attention.

The first chapter is "*on prolapsus uteri*,"—the most common perhaps, of all the diseases peculiar to females. Although not a dangerous affection, it is often extremely annoying to the patient, and seldom fails, at last, to impair the general health and energies of the system. In some instances, the symptoms of this complaint come on very gradually, while in other cases, they force themselves suddenly on the notice of the patient.—"Thus, in many cases, an uneasy sense of pressure, or bearing down, with weariness in the loins, on standing or walking, are first experienced, and by and by those feelings occurring in an aggravated degree, are found to occasion more than usually frequent calls to pass urine. In other cases, the patient, without any previous warning, suddenly feels, in the act of relieving the bowels, something forced down upon, or partially thrust out of the vulva." It varies also, very much in different cases, in the character and severity of the symptoms attending its subsequent progress. In some instances, the inconvenience experienced, is but slight, until the uterus descends so low as actually to protrude through the external parts. In the majority of cases, however, the general and local symptoms are much more severe.—The dislocated uterus irritates the vagina and causes more or less *profuse leucorrhœa*, the digestive organs become disordered, and a train of harassing nervous affections, with general weakness and languor of the system ensue. The sufferings of the patient, are however, not, in general, proportioned to the degree of the prolapsus. "Experience shews that peculiarity of constitu-

tion has more influence in this respect, than the mere degree of uterine displacement." Thus, the author mentions the case of a woman with a protrusion which equalled in size, a quart bottle, and "in which both the protruded parts, and the internal surface of the thighs were extensively ulcerated; and yet this patient's general health appeared to be unimpaired, the appetite good, and the stomach and bowels wholly free from disorder.—It was formerly supposed that this affection could occur, only in females who have been mothers; but at the present day, its occurrence in young and unmarried females, is by no means uncommon. During the first ten or twelve years of our practice, we did not meet with an instance of this complaint in a young and unmarried woman, but within the last fifteen years, no inconsiderable number of such cases have come under our notice.—The present prevailing custom of wearing very tightly laced *corsets*, has, obviously, a direct and powerful tendency to produce this affection. The abdominal viscera being thus forcibly pressed down upon the contents of the pelvis, the womb can hardly fail being forced down into the vagina.

The author rejects the general opinion that prolapsus uteri depends on relaxation of the ligaments by which the womb is attached to the sides of the pelvis. M. Gardien has expressed the same sentiment. He denies that the broad and round ligaments have any material agency in supporting the uterus in situ. The true cause of this disease, he asserts is "the softening and relaxation of the membranes of the vagina, and of the cellular tissue, which unites them to the linings of the pelvis." It is evident, says the author, "that the bladder, the vagina, the rectum, and more especially, the muscles lining the pelvis, and those connecting the lower part of the trunk and the inferior extremities, mainly contribute to hold the uterus in its natural position." We do not doubt the correctness of these remarks; and it appears to us quite evident that relaxation of the uterine ligaments is rather the effect, than the cause of prolapsus. The fact that prolapsus of the womb sometimes occurs in virgins, may be alleged in objection to this view of the subject. Such cases, however, are almost invariably the effect of "a sudden exertion in moving the body," or of forcible pressure of the bowels upon the pelvic viscera, from tightly laced corsets, at a time when the vagina, and other parts connected with the uterus, are in a state of relaxation during menstruation. While this secretion is going on, the natural supports of the womb are relaxed, "and any violent muscular exertion, as in leaping, dancing, or running, may cause this organ to sink down into the relaxed vagina."

In relation to the remedial management of this complaint, the author differs, in several material points, from the latest and most respectable authorities on this subject. The means of cure hith-

erto most relied on, are the horizontal posture, the application of cold to the loins, vulva, &c. astringent injections, tonics, and pessaries. "In every case of procidentia, says Dr. C. M. Clark, "much may be done by *posture*; the patient should lie as much as possible, upon a bed, or a sofa, and a mattress, as presenting a flatter surface and being less likely to debilitate, is preferable to a bed of down or feathers. The room in which the patient remains, should be kept cool." Professor Burns, also regards the recumbent posture, in the early stage, "as the most effectual means." Gardien, (vol. 1, p. 180,) says, "the patient ought to confine herself to the horizontal posture for a long time." The same practice is urgently recommended by Dr. Davis, in his late very excellent work on practical obstetrics. Whatever other means may be employed, it will be found necessary, he says, "to superadd the practice of using the horizontal position either altogether, or for many hours daily, according to the more or less urgent claims of the case."

Notwithstanding these high authorities in favour of this practice, the author of the work before us, condemns it unreservedly as "tending not only to impair the general health, but also to aggravate the disease, by increasing the relaxation of the natural supports of the womb."

In relation to the application of cold, either in the form of the cold plunging, or shower-bath, so highly recommended by Dr. Clark, our author observes, that in slight cases, the cold plunge bath furnishes an excellent auxiliary," but he objects, strenuously, and we believe very justly, to the introduction of a piece of ice into the vagina, as suggested by Dr. Clark and others. He is still more opposed to the practice of injecting *astringent* fluids into the vagina. He asserts, that his experience has convinced him that injections of this kind, "are apt to injure the uterus, rather than the canal into which they are thrown. He solemnly avers that of the numerous cases of chronic enlargement of the uterus which have fallen under his notice, by far the greater number had been unequivocally occasioned by the use of styptic injections into the vagina." He observes, moreover, that the sudden diminution or suppression of the leucorrhœal discharge by the use of such injections, "has in many cases, been followed by distressing head-aches, or obstinate inflammation of the eyes, or eruptions on the face." We cannot agree with the author on this point. For nearly thirty years, we have been in the habit of prescribing astringent applications in prolapsus, and we think often with decided benefit. In cases attended with profuse leucorrhœal discharge, injections of this kind are particularly useful, and when used in conjunction with the recumbent posture, they are calculated to do much good, by increasing the tone and contractile power of the vagina, and thus aiding materially, in retaining the womb in its proper position. The author

asserts that the reason why astringent injections are not more frequently injurious, is "because the fluids are never properly injected; for he is persuaded that not one patient in ten can do this effectually." This assertion we think, is made more confidently than truly. It may not be easy to inject a fluid into the womb, but certainly there cannot be so much difficulty in throwing an injection completely into the vagina, especially when done with one of Clark's long and curve-necked syringes. We are fully aware that the common cylindrical female syringes are altogether insufficient for proper vaginal injection, and where there is any importance attached to this measure, one of Clark's syringes ought to be used.

The mechanical support of the uterus by *pessaries*, has hitherto been most relied on for relief in this annoying and obstinate affection, and it is a practice which is indeed still almost universally sanctioned by the profession.

The author of this work is, however, wholly opposed to the use of *pessaries*. His objections are:—

1st. "They can only act as palliatives, whatever may be the degree of the disease."

2d. "They necessarily keep up a constant irritation in the vagina, and of course, a mucous discharge from this passage."

3d. "They are apt to make injurious pressure on the contiguous parts."

4th. "They become encrusted with a calcareous and highly irritating matter, if not frequently taken out and cleaned."

5th. "No ordinary pessary can be retained in cases connected with laceration of the perineum."

He was induced many years ago, to banish the use of pessaries from his practice, by a case which came under his care, in which the pessary, though not very large, made "its way by slow ulceration or absorption into the rectum." It must be confessed that the author's objections to the employment of pessaries, are not without very considerable weight, and there are, probably, few physicians of some years' experience, who have not been more frequently disappointed with the use of this remedy in prolapsus, than the general reputation of the means would lead one to anticipate. This, at least, has been the case with ourselves; and we are of opinion that the cases in which pessaries are calculated to procure decided benefit, must be always comparatively, very limited in number.

The curative indications in prolapsus uteri, are manifestly "to increase the strength of the parts which are weak, and to afford a support to the tumour, the descent of which, produces the symptoms." To fulfil the latter indication, the author recommends a mode of supporting the womb, which he declares "is both effectual and safe," and decidedly superior in all respects to every other means that has hitherto been suggested for this purpose.—

This consists in the use of a T bandage, with a cushion interposed between the outlet of the pelvis, and the cross strap of the bandage, without any pessary."

"In slight cases of short standing, the circular band may be made of fine linen or jean, lined with soft chamois-leather; but in more serious degrees of the disease, it ought to be made of tempered steel, like that of the common truss. The cushion is to be stuffed with horse-hair, and ought to be, generally speaking, about six inches in length, by three in breadth. Its thickness must be adapted to the individual case, that is, the greater the degree of relaxation of the soft parts at the outlet of the pelvis, the greater should be the thickness of the cushion. It is to be slightly tacked to the cross strap of the bandage, so as to press firmly upon all the parts requiring support. In some cases where the perinæum had entirely given way, the author has found it necessary to combine the prolapsus ani bandage with the cushion.

The bandage is to be worn whenever the patient is out of bed, as long as any symptom of the disease is perceived. It effectually relieves the unpleasant feelings while it enables the patient to take exercise by walking, which is so essentially necessary to the entire removal or decided palliation of the disease." p. 29.

The author asserts that by this contrivance he has in nearly every instance of prolapsus that has come under his care, since he adopted its use, afforded prompt, and, generally, entire relief. "One lady who had been for five years confined to the horizontal posture, had at once the use of her limbs restored by this simple contrivance." We have recently resorted to the use of a bandage of this kind, in a very aggravated case of this complaint, and were equally surprized and gratified by the promptness and completeness of the relief it gave. A bandage or "uterine truss," as it is called, constructed after the general plan recommended by the author, has lately been offered to the profession, by Dr. Hull of New York. On the upper surface of the cushion of this truss, there is a projection of a cuniform shape, about three fourths of an inch in height, and one, or one and a half inches long, which is designed to pass between the labia, and to press directly upon the external orifice, when the instrument is applied. We have not as yet, tried this truss; but we apprehend that the projection on the cushion will be found to cause irritation, and probably inflammation of the internal surface of the labia, particularly in corpulent and obese females. The simple oblong pad, is, we think, sufficient, and does not seem to be liable to any objections of this kind. "By means of this bandage," says the author, "the patient can stand, can sit, can walk, and even can ride with ease, and the pressure which it excites upon the weak parts, has a powerful influence in strengthening them, while at the same time, it has the important effect of moderating or curing leucorrhœal discharge without injury to the constitution." *

* Dr. Thompson of Columbus in this state, has quite recently contrived an instrument of this kind, a sort of *pelvic corset*, which is, unquestionably, decidedly superior to every thing of the kind that has hitherto been offered to the profession. We intend to give a more particular account of this truly valuable uterine truss in our next number.

In addition to the use of this bandage, means should be employed "for increasing the strength of the weak and relaxed parts," as well as of the general powers of the system. The author thinks that "walking exercise is the most powerful means which can be suggested, for strengthening the natural support of the uterus." We have some mis-givings as to the correctness of this remark. We do not comprehend how walking can have any particular tendency to strengthen the relaxed vagina, perinæum and other parts immediately concerned in the disease.—Certainly, regular exercise by walking, tends very materially to invigorate the general system, and in this way may doubtless prove beneficial in this complaint. The cold or tepid shower or plunging bath, is, in general, a very useful auxiliary for this purpose; and where the general weakness and relaxation is considerable, the internal use of tonics will frequently be beneficial.

"In young unmarried women, in whom the prolapsus has been the effect of over exertion, or of mechanical injury during menstruation, the daily use of the cold plunge bath, and of steady walking exercise, with the ordinary means of promoting the general health, will commonly cure the disease in the course of a few months.

Where the prolapsus has supervened to child-bearing, the same means will be found to *relieve* the symptoms, there can be no chance of cure, unless the patient again become pregnant. In that case if suitable means be employed after delivery, for the restoration of the whole of the uterine system to its natural condition in the unimpregnated state, the prolapsus will not again return.

Prolapsus uteri of long standing, in elderly women, is to be treated as in young unmarried females; but it is the duty of the practitioner to explain that the T bandage must be worn for the remainder of life, an inconvenience trivial indeed, when compared with the sufferings arising from the use of pessaries, or from the disease being neglected."

We pass over the subjects of polypus uteri, enlargement of the ovaries, and the signs and duration of human pregnancy—all of which, contain interesting and instructive observations—to the chapter '*on the management of the first stage of labour.*' Upon this subject, the author expresses sentiments, which have hitherto been almost universally regarded by good obstetrical authorities as decidedly erroneous, and detrimental in their tendency. We are inclined, however, to regard his views on this subject, as in the main, well founded; and tending, under judicious management, to beneficial results. It is to the *first* stage of labour, namely, to that period which is occupied in the complete *dilatation of the os uteri*, that the author's observations particularly relate. "He was first led to doubt the safety of the established practice, from reasoning on the subject; he found that when the natural powers are alone relied on, this stage is often greatly protracted;" and it appeared to him reasonable to conclude, that where the first stage of labour is thus prolonged, "the strength of the patient must be proportionably

lessened, the uterine action enfeebled, and the nervous and sanguiferous systems much disturbed.

"It was not however until the year 1800, that the author ventured, in lecturing, to state as the result of his observations and experience for about fifteen years, that unless the first stage of labour, (supposing that there are regular pains,) be not completed within twelve or fourteen hours from its actual commencement, the following consequences may be dreaded. 1. That the powers of the uterus may be so enfeebled as to be inadequate to expel the infant with safety to its life, or to the future health of the parent. 2. That after the birth of the infant, the uterus may contract irregularly so as to occasion the retention of the placenta. 3. That after the expulsion of the placenta, the contractions of the uterus may be too feeble to prevent fatal or injurious hæmorrhage. And 4, that supposing the patient should escape all those untoward circumstances, febrile and inflammatory affections of a most dangerous nature may ensue from the previous protraction of pain, and general nervous and vascular disturbance.

Every year's experience since that time, has furnished the author innumerable instances of the accuracy of these observations. One of the most remarkable and certainly, the most interesting, was that of the Princess Charlotte. In her case, Dr. Deman's directions were implicitly followed, and the world knows the deplorable consequences. The first stage of labour was allowed to go on from at least Monday night, at 7 o'clock, till Wednesday afternoon at 3 o'clock.

The effects of allowing the first stage to be thus protracted, were strikingly manifested. The infant was destroyed by the continued pressure of the uterus upon its navel string. The placenta was retained by irregular contraction of the uterus, internal hæmorrhagy took place from the same cause; and such was the exhaustion of the sensorial powers, that the loss of but about twenty ounces of blood, by the hæmorrhage, proved fatal." p 192.

The liability to these unfavourable consequences, says the author, may be greatly diminished by suitable efforts "to secure the termination of the first stage of labour, within twelve or fourteen hours from its actual commencement." By this, is to be understood, the fact of their being a continuance of regular pains, for it sometimes happens that after regular pains have commenced and continued for a time, a complete suspension occurs for several hours. "If there be no injurious pressure upon the passages during the suspension, the patient's strength is recruited, and the duration of the first stage is to be reckoned from the recurrence of the pains."

"By the adoption of this rule, namely, securing the completion of the *first* stage of labour within twelve or fourteen hours—the author can confidently assert, that no patient under his charge, for the last thirty-five years, has been above twenty-four hours in labour, and excepting in cases of disproportion not so long." p. 196.

Protraction of the first stage of labour arises from premature discharge of the liquor amnii—rigidity of the os uteri—contraction of the cervix uteri from an undeveloped band of fibres—great relaxation of all the parts lining the pelvis"—and the interception of a portion of the cervix uteri between the presenting part of the infant, and the bones of the pelvis. The last of these causes of slow dilatation, may be distinguished, says the author, "by their being, notwithstanding the continuance of strong pains, only very slight tightening of the edges of the os

uteri, on the occurrence of every uterine contraction, after there had been a certain progress in the dilatation." In estimating the duration of the first stage of labour, it is of course, indispensible, not to confound the *spurious* with the *true* pains of labour. Young or inexperienced practitioners are apt to fall into error in this respect, being, thus, often led to regard this stage as greatly protracted, when in fact, it may not be longer than is usual in regular cases. It must be recollected that "spurious pains are irregular in their recurrence and duration, and that they produce no influence upon the edges of the os-uteri. The true pains, on the contrary, recur with regularity, are preceded by feelings which announce their approach, and are accompanied with a tightening of the edges of the os-uteri."

For tedious dilatation from *rigidity*—or as the author terms it "natural toughness of the os-uteri," copious blood-letting is doubtless the most effectual remedy. In a very large proportion of the cases of protracted dilatation from this cause, the author has found copious blood-letting rapidly efficient in expediting this process." When rigidity is connected with general debility and relaxation, strong opiate enemata ought to be resorted to. Under proper management, opiate injections are not only safe, but decidedly beneficial.

"The utility and safety of the practice are, however, mainly dependant on the *time* at which it is adopted. If strong and frequent pains continued for six or eight hours, do not decidedly promote the dilatation, the opiate enema should be had recourse to, and it will, then, seldom disappoint the expectations of the practitioner. But if the first stage be allowed to go on for twelve hours or upwards without having completed the dilatation of the os uteri, there is the risk that the opiate will so far interfere with the progress of the labour, that instrumental delivery shall become necessary." p. 227.

When slow dilatation depends on great capacity of the pelvis, with relaxation of the parts lining it, so that the undilated uterus is, during each pain, forced down upon the external parts, it is only necessary, says the author, "by the application of two fingers to the edges of the os uteri, to retain the uterus *in situ* during every pain, till the head of the infant has passed into the vagina. The practitioner is to confine his efforts to the attainment of this object alone, and is most particularly to guard against any attempt at *forcing* open the os uteri.

The interposition of a portion of the neck or mouth of the womb between the head of the infant, and the bones of the pelvis, is a more frequent cause of protracted dilatation of the os-uteri, "than has been generally supposed."

"The most certain evidence of this cause of protraction is,—that strong pains are not felt to advance the head of the infant. In ordinary cases, after the head of the infant has entered the pelvis, every pain can be distinctly perceived to press it more or less forward, even although resisted by the undilated state of the uterus.—But in the case under consideration, it remains wedged at one spot, although not in contact with the os-uteri.

For the purpose of overcoming this cause of the difficulty, it becomes necessary to make counter pressure against the edges of the os-uteri, during every pain, till it be fully dilated, which, in most instances, will be accomplished in the course of an hour, or little more. After the preliminary process has been completed, the practice must be varied according to circumstances. If the head be felt to be exactly in the natural position, that is, with the vertex presenting, it may be concluded, either that the infant is of unusual magnitude, or that there is a slight narrowness of the pelvis; and in either case, the effectual means of giving relief is, during the pain to press up the band of the uterus which is between the head and the pubes. This being effected, the band next the sacrum is next to be pressed upwards, and whenever it yields, the difficulty is overcome, the infant rapidly advancing."

Our own experience has, many years since, led us to the same practice recommended by the author in cases of this kind. It happens, not unfrequently, that the progress of the child's head through the pelvis, goes on very slowly, although the os-uteri is soft, and already considerably dilated, but with a band of the neck of the womb intervening between the pubes and the head, and stretched over the anterior part of the latter. If, in such a case, this band be pushed up with the finger during the pains, it will, in general, soon pass up over the occiput, at the same time that the dilatation is speedily completed, and the descent of the head very greatly expedited.

But the particular point of practice, in reference to the first stage of labour, in which the author deviates most widely from nearly all good authorities, is that of hastening the dilatation (in tedious cases not attended with rigidity,) *by applying suitable force, in stretching or dilating the os-uteri, with the finger during the pains.* The following quotation from the last edition of Dr. Burns' midwifery will serve to explain our author's views on this subject. Dr. Burns, one of his early pupils, is the only respectable writer on obstetrics, who advocates this practice—and the subjoined passage is quoted by the author, as a proper exposition of his sentiments on this point of practice.

"The practice of dilating the os-uteri, by force applied with the finger, is, in most cases of tedious labour, beneficial. Forcible and irritating dilatation of the os-uteri, even when it is not productive of dangerous consequences, is apt to occasion irregular or spasmodic action of the uterus. Two circumstances are necessary to render it safe and useful. The os-uteri *must be lax and dilatable*, and the dilatation must be gradually and gently effected, during the continuance of the pains. If attempted in the absence of the pain, and especially if attempted so as to give pain, it is apt to excite partial, or spasmodic action, and under any circumstances, violent or forcible dilatation, besides injuring the uterine action, may lay the foundation of future disease. It is done best by pressing on the anterior edge of the os-uteri, during a pain, with two fingers, with such moderate force as shall not give additional pain, and shall appear to excite the natural dilatation as much as to produce mechanical opening. By doing this, for several pains in succession, or occasionally during a pain, at intervals according to the effect produced, and the disposition to yield, we shall soon have the os uteri completely dilated. This is an old principle, but it was rashly practised, and too universally adopted, which made it meet with just reprobation, and some knowing this, may be surprised at meeting with such an advice in modern times. Let not the principle suffer from its abuse,

else, where is the plan which could stand its ground." It is perfectly clear, that when the process is going on well, interference is improper, but it is no less evident, that if a long time is to be spent in accomplishing the first stage of labour, or dilatation of the os-uteri, the vigour of the uterus and strength of the patient may be impaired, so much as to render the subsequent stage dangerously tedious, or to prevent its completion, at least consistently with safety. The first stage of labour, ought always to be accomplished within a certain time, varying somewhat according to the constitution of the patient, and the degree of pain. It is an undeniable proposition that there is in every case a period, beyond which, it cannot be protracted, without exhaustion, and it is no less certain that if we wish to avoid this exhaustion, which may be followed by pernicious effects, we have only the choice of either suspending the action altogether for a time, or of endeavoring to render it more efficient, and of effecting the desired object within a safe period. The first, is sometimes adopted, but is not always practicable, nor is it always prudent to counteract uterine action by strong opiates. The second is safer, and one of the means of doing so, is that under consideration. If the pain be continued without suspension, or an interval of some hours, and the labour be going on all the time but slowly, it is a good general rule to effect the dilatation of the os-uteri, within ten or twelve hours at the farthest, from the commencement of regular labour. This is done, if the os-uteri be flat and applied to the head by the method above described. If the os uteri be somewhat projecting, it is aided *by introducing two fingers, and extending them laterally with gentle force during the pain.* The dilatation is easily and safely effected, if the case be proper for it: if not, bleeding, or an efficient opiate, if the former be not indicated, will soon bring about a favorable state.—Of the benefit and perfect safety of this practice, I can speak positively, and am happy to strengthen my position by the authority of Dr. Hamilton, who makes it a rule to have the first stage of labour finished within 12 or 14 hours." p. 209.

In relation to the management of the *second stage* of labour, the author does not deviate materially from the established practice. The point of attention in this stage of labour is to prevent laceration of the perinæum, and this is especially necessary "when it is the patient's first child."

"The method which the author has pursued and recommended for the last forty years in cases of a first child, is the following. From the time that the head of the infant clears the os uteri, the practitioner is to remain by the patient, and whenever the pressure upon the external parts begins, he is to make counter pressure during every pain, by applying the right hand without the interposition of a cloth, in such a manner as to support any part which is more than another on the stretch. In the intervals between the pains, he is to apply fine lard to the perinæum and labia, in proportion to the heat or rigidity of those parts.

As the orifice of the vagina opens, and a little more of the infant's head than the swelling scalp is pressed through the orifice during the pain, he is so to arrange the thumb and fingers of his right hand, on each side of the vulva, as to secure due support to those parts, while with the palm of his hand he is *to press forward the perinæum towards the pubes.*"

With regard to the delivery of the placenta, the author states, that from the earliest period of his practice "he adopted two rules in respect to the management of the placenta"—viz. to extract the placenta, 'upon the very first threatening of hæmorrhage;' and where there were "no untoward symptoms, to wait no longer than one hour for the natural efforts." These rules we believe to be judicious. It has always appeared to us, that the rules which are usually laid down in works on this subject, as to the period which should be suffered to pass before the placenta is deliv-

ered (when nature fails to accomplish this process,) enjoin a much longer delay than is demanded, either for the comfort or the safety of the patient. During the whole period of our practice, we have never delayed above thirty minutes, before we proceeded to the delivery of the placenta, provided no untoward circumstance existed; and we have never had any reason to regret this practice. Gardien, in common with some other respectable authorities on this subject, says: "The placenta should not be interfered with in cases where it is retained by spasmodic contraction of the neck of the uterus." We greatly doubt the propriety of this advice. We believe, on the contrary, that where the placenta is retained by spasmodic constriction of the neck, or by the hour-glass contraction, it will, very generally, be best to proceed to the delivery, within the first hour after the birth of the child, or rather, as soon as the patient has somewhat recovered from the agitation attending the last parturient efforts. The spasm of the womb, very rarely relaxes until many hours have passed—and the longer the operation of delivery is delayed, the more painful and annoying it will be to the patient.—I have been called to cases where the attending physician had delayed interfering, in the hope that a spontaneous relaxation and expulsion would take place—but where more than twenty hours after the birth of the child, I found the constriction still very firm, while the vulva and vagina had become so tender and sore, as to render artificial delivery extremely distressing to the patient, and perplexing to the operator.

Retention of the placenta from morbid adhesion to the surface of the womb, is by no means unfrequent. The author states that this state of placenta may always be known by the following symptoms.

"Where the placenta morbidly adheres, a gush of blood follows the birth of the child—uterine contractions succeed, each pain being usually followed by another gush, while the uterus feels contracted into a round form, and yet there is no lengthening of the cord. In the whole course of the author's practice he has only met with one case where these symptoms did not occur."

The adhesion is generally confined to a portion only of the placenta; and in no instance has the author found it extended to the whole surface. It seldom, indeed, occupies more than one third of the general mass." p. 285.

The author objects to the common mode of proceeding in adherent placenta—namely, by insinuating the fingers between the edge of the placenta and the surface of the uterus, and thus gradually "peeling it off." He thinks that "the proper and indeed only safe practice in such cases, is to detach and remove all the portion of placenta "that is *not* morbidly adherent to the uterine parietes, leaving the remainder to such kindly offices of nature, as she may be competent to exert for its expulsion."

"For this purpose, the navel string is to be held by the left hand, while the right hand is to be carried up guided by the placenta. Pressure is now to be

made upon the *substance* of the placenta, bringing its circumference towards the centre, and thus detaching, leisurely and carefully, all that can be separated by this manipulation. The separated mass is now to be extracted by pulling the navel string with the left hand, while the complete contraction of the uterus is to be secured by suitable pressure with the right hand, which ought not to be withdrawn from the womb, till its parietes are in close contact."

Uterine hæmorrhagy. In relation to hæmorrhagies from separation of a portion of the placenta, before the birth of the infant, the author expresses views at variance with those generally entertained on the subject. He regards the common opinion, that in hæmorrhagy of this kind, the blood proceeds directly from the ruptured uterine vessels, as 'unequivocally erroneous.' 'The hæmorrhagy, in such cases, he says, "proceeds more from the separated portion of the placenta, than from the ruptured uterine vessels."

"As there is a free communication throughout the whole cellular texture of the placenta, the blood conveyed by the uterine arteries into any part of it is necessarily diffused over the whole mass, and hence, if any part be detached, blood must be discharged from the separated portion."

The correctness of this view of the subject, is illustrated by the fact frequently noticed, that the hæmorrhage, in cases of this kind, is not always in proportion to the space of the placenta detached from the uterus. Dr. Collins declares that he has seen "the hæmorrhagy as profuse, when there was merely a portion of the edge of the placenta separated, as where the greater part of the mass was detached;" and a similar observation is made by Dr. Denman. Cases have also occurred, where the hæmorrhage ceased almost entirely, as soon as the placenta was completely separated and extracted, although the infant was still in the womb. Drs. Smellie, Ramsbotham, Collins and Hamilton, have recorded cases of this kind; and the author states that he has, in several instances witnessed *fatal* hæmorrhagy, from the separation of but a very small portion of the placenta. "In one distressing case, he says, where his friend Mr. Barker, and he witnessed the appearances in a woman who had died undelivered, from hæmorrhagy between the seventh and eighth month, it was found that the area of the separated portion of the placenta was less than a square inch."

"This error in respect to the source of the hæmorrhagy, has led to a still more extraordinary and more important one, in relation to the means by which the natural resources of the constitution stop the progress of such discharges. According to the latest authorities, it appears that the general belief of the profession is, that hæmorrhagy occurring before the birth of the infant, may be checked by diminished action of the heart and arteries *favouring* coagulation, or *the formation of a plug in the extremities of the ruptured vessels.* By what prejudice this notion has been so generally adopted, the author cannot understand. No anatomist has yet ventured to allege that he has seen coagula plugging up the extremities of the ruptured vessels in the gravid uterus. In point of fact, this structure renders it impossible. That hæmorrhagy in the latter months of pregnancy, whether accidental or unavoidable, is occasionally suspended by the natural pow-

ers of the constitution is indisputable. But when this occurs, it will be found that the ruptured uterine vessels are drawn into the substance of the uterus, and constringed, a process to which their peculiar structure admirably adapts them, and that the separated portion of the placenta undergoes a change analogous to that of adhesive inflammation, probably from the influence of the atmospherical air. The recurrence of the hæmorrhagy in such cases arises from a farther separation." p. 234.

In relation to the treatment of hæmorrhagy from separation of the placenta, the author dissents from the generally received doctrine, that *accidental* and *unavoidable* hæmorrhagy require a different mode of management—"a doctrine which he considers to have been productive of much injury."

When called to a case where the placenta is found implanted over the os uteri, the first important duty is, to decide whether *palliative* means are justifiable, or whether *immediate delivery* be necessary. If the former course be deemed advisable, the horizontal posture, perfect quiescence, and a simple and bland diet ought to be recommended. It may also be useful to administer the nitrate of potass, where there is a tendency to increased arterial excitement. In addition to these means for keeping down the momentum of the circulation, at least a pint of some metallic astringent solution should be carefully injected into the vagina, by means of a common bag and pipe." The author prefers the sulphate of zinc, or the sulphate of alumine in the proportion of a drachm to a pint. Immediately after this astringent solution has been injected, a drachm of the tinctura opii, mixed with an ounce of gruel or thin starch, must be administered as an enema." By this practice, the author "has generally succeeded in palliating the symptoms, for from two to three weeks."

The author objects to the practice recommended by Professor Davis, and other respectable authorities, namely, of rupturing the membranes and plugging the vagina, with the view of arresting the hæmorrhage for a time, as in cases of accidental hæmorrhagy this practice has sometimes succeeded; but in the case of attachment of the placenta over the os-uteri, the rupture of the membrane, says the author, "would add greatly to the difficulty and danger of the operation of turning, an operation which is eventually indispensable." As to plugging the vagina, whether in accidental or unavoidable hæmorrhagy, "the author has no difficulty in declaring it to be most hazardous." Dr. Dewees, on the contrary, strongly advocates this practice. The plug or tampon, he says, not only favors the coagulation of the blood, by which the hæmorrhage is arrested, but by its mechanical pressure, it promotes the dilatation of the os-uteri. Certainly, however, if our author's views in relation to the principal source of the hæmorrhage in such cases be correct—that is, if the discharge proceeds from the separated portion of the placenta in a greater degree than from the ruptured vessels of the neck of the uterus, which, we are inclined to think, is the case—the effects

of the plug towards checking the hæmorrhage can only be very trifling; "for the blood received into the adherent mass of the placenta must continue to flow from the part which is detached." The principal objection to the practice of plugging the vagina in such cases, is, that if the blood is prevented from passing off by the vagina, it may accumulate within the cavity of the uterus to a fatal extent. That this objection is well founded, we have within a few years past witnessed an unfortunate and distressing illustration.

Artificial delivery is the only means in our power by which the patient may be extricated from her perilous situation—and to this measure recourse should be had, "whenever the discharge is such as to threaten injury, either immediate or eventual to the constitution of the patient." In general, by the time this necessity occurs, the os-uteri will be found sufficiently yielding, although, perhaps as yet but little dilated.

In cases where the os-uteri is too rigid to admit of the introduction of the hand into the womb, the author has adopted the following novel mode of proceeding.

"In 1816 the author was called to two cases, where the patients seemed to be in articulo mortis, from the deluge of the discharge, and where nevertheless, the os-uteri was in a state of obstinate rigidity: under these circumstances, the author neither plugged the vagina, as is recommended by Dr. Davis and others, nor ruptured the membranes, but had recourse to a method which he believes has not hitherto been suggested by any of the profession. He had upon many occasions, where it became necessary to turn the infant, while the ovum remained entire, saved the patients the pain arising from forcing the hand into the uterus, by merely, after passing it into the vagina, pushing back the presenting part with the fingers, in such a direction as literally to turn the fœtus round. He was thus enabled to hook down a foot, on withdrawing which, and securing it, first with a riband, and then with a soft cloth, he had found that, by supporting the os-uteri with two fingers of the right hand, and drawing forward the infant with the left, the uterus opened both rapidly and safely. This practice he adopted in the cases alluded to. The facility with which this operation can be performed cannot be credited by those who have neither tried nor witnessed it. Dr. Moir followed this practice with complete success, in January, 1836.

"Suitable compression of the abdomen, by means of a binder, ought, if possible, to be applied in all such cases previous to performing the operation of turning. As soon as the fœtus and secundines are withdrawn, every means for promoting and securing contraction of the uterus must be carefully pursued. The great hazard is, that the cervix uteri may continue relaxed, while the fundus readily contracts. It will be found, in such cases, that all vestige of the os-uteri is obliterated, the vagina and uterus forming one continuous canal. Under such circumstances the practitioner is very apt to be thrown off his guard, for he feels, as he supposes, very distinctly, the contracted uterus, through the parietes of the abdomen, and some time may elapse before there be any discharge from the ruptured vessels of the cervix. Even two hours may thus pass without alarm." 258.

Puerperal Convulsions.—Acute, lancinating pain in the head is the most frequent precursory symptom of this form of convulsions. Dr. Burns mentions "fixed pain in some part of the back" as a common premonitory symptom in this complaint; but the author of the work before us, declares that he has never

met with any case in which this symptom was present. The author states that when puerperal convulsions terminate fatally, the uterus on examination, is often found burst, or in a state of great vascular turgescence, and in some cases, blood or serum is found within the cranium. "When a single fit destroys life, it is found that there had been rupture of the uterus; and when there has been a succession of fits previous to death, blood, or serum is usually discovered within the cranium." Dr. Collins, in his excellent work on practical midwifery, gives an account of 30 cases of puerperal convulsions, *five* of which terminated fatally. "In three of these fatal cases there was laceration of the uterus and vagina." More than twenty years ago, a fatal case of this affection came under our notice, in which the posterior surface of the uterus, near its junction with the vagina, was torn completely across. General plethora, the pressure of the gravid uterus on the great abdominal blood vessels, together with the increased excitability of the nervous system, which generally attends pregnancy, constitute, according to the author's views, the main predisponent causes of this frightful affection. It appears also, that "women in their *first* pregnancy, are most liable to convulsions." Of the thirty cases mentioned by Dr. Collins, as having occurred in the Dublin Lying-in Hospital during his attendance, "*twenty-nine* were patients pregnant for the first time; and two of the thirty had twins." The author dissents from Dr. Burns, in the opinion that the state of the spine predisposes to this affection. "He has never been able to detect any evidence of the correctness of this opinion."

Prompt and very efficient blood-letting is the only remedy upon which any reliance can be placed for the cure of this complaint. The author asserts, that for nearly thirty-eight years "he has not seen a single fatal case of puerperal convulsions, and he attributes this success entirely to the large bleeding he practised." He never takes away less than fifty ounces at the first bleeding, "and if there be not a decided improvement within the hour, he advises the same quantity to be again abstracted."

"Experience has taught the author, in directing the first bleeding, to disregard peculiarity of constitution, for the most delicate persons require the same quantity to be abstracted at first as the most robust. In a large proportion of the individuals in the lower ranks, who have been apparently saved by this practice, the diet had, previous to the occurrence of the disease, been for months, perhaps for years, chiefly or entirely farinacious; and in several of the cases in the better ranks, the subjects were of a feeble and delicate habit. The symptoms were so urgent in some of the patients of the latter description, when the author's aid was requested, that he recommended a vein to be opened, at once, in both arms."

Persuaded as we are, that blood-letting is our main stay in the treatment of this malady, our experience, nevertheless, does not permit us to believe, that such enormous abstractions of

blood are often necessary; and, it can hardly be doubted, that so great and rapid a depletion, must tend very greatly, to break down the constitutional vigour, and to lay the foundation of a train of distressing chronic ailments. During the last sixteen years, we have seen eight cases of this complaint, all of which terminated favourably, and yet, in no instance was there more than about sixty ounces of blood drawn. Doubtless, cases will occur, in which a much larger quantity of blood must be drawn, before a decisive impression is made on the disease; but we think, that in a great majority of cases, the loss of fifty or sixty ounces of blood, if rapidly drawn from a large orifice, while warm applications are made to the feet, and cold to the head, will afford all the advantage that can be obtained from this remedy.

ART. IX.

An Essay on the Laryngismus Stridulus, or Croup-like Inspiration of Infants. To which are appended, Illustrations of the general Principles of the Pathology of Nerves. and of the Functions and Diseases of the Par Vagum and its principal Branches. By Hugh Ley, M. D., Member of the Royal College of Physicians of London, Physician to the Westminster General Lying-in Hospital, Physician-Accoucheur to the Middlesex Hospital, and Lecturer on Midwifery at St. Bartholomew's Hospital. *Illustrated with Plates.—London,* 1836. 8vo. pp. 480.

(From the British and Foreign Medical Review.)

We have frequently had reason to regret, in common with other practitioners, the various perplexities in which the disease which forms the subject of this essay was involved, and the utterly discrepant opinions that existed concerning it. We may venture indeed to assert that, in the lamentably long catalogue of maladies of which doubtful pathological and therapeutical opinions have been hitherto entertained, none more imperatively demanded impartial and deliberate investigation than the "croup-like inspiration of infants;" in the estimation of some distinguished medical authorities, an alarming and frequently fatal disease, requiring the prompt and decisive practice of free bleeding, "heroic" doses of calomel, and very slender diet;—in the opinion of others of equal eminence, a comparatively harmless, though tedious, complaint, rather aggravated than relieved by the treatment adverted to, and requiring for its cure the totally opposite practice of a tonic regimen, quinine, nourishing food,

and country air. The very existence, indeed, of the disease, as separate and distinct from croup, has been a source of much dispute on the continent; and even here (constantly as we have opportunities of observing it,) it is not seldom mistaken for true croup by the inexperienced, and treated accordingly. Dr. Ley, therefore, is certainly not amenable to the charge of writing a book upon either an uninteresting or an exhausted subject.

As we are very desirous of taking as ample notice as possible of his opinions, we shall pass over the curious literary history of the "Laryngismus Stridulus" very briefly. It has been stated by different writers that this disease has but little attracted the notice of the profession. It appeared, however, to our author extremely improbable that a complaint dependent upon the physical agency of causes which have been always in operation, should have escaped the notice of practical medical writers; and, although it is true that the late Dr. John Clarke first fixed the attention of the profession to the subject, Dr. L. found, as he anticipated, that even from the earliest ages distinct notices of it were to be met with in medical works. The causes and intimate nature of this complaint, and the appropriate name whereby it should be designated, have been fruitful sources of contrary opinions; but the account of its characteristic features has been so uniform, that we are enabled at once to identify the disease as described by different writers under different titles. Until the beginning of the present century, this complaint appears to have been commonly described by the vague title of "asthma." In 1761, Dr. James Simpson published an inaugural dissertation, "de Asthmate Infantum Spasmodico." Dr. John Millar* noticed this disease in a separate publication, which has been the source of great controversy in this and other countries. He had seen much of the disease, and identifies it with that described by Simpson, whom he quotes. Dr. Ley finds little difficulty in recognizing, at least in the first stage of Millar's asthma, the complaint which Dr. J. Clarke termed "a peculiar species of convulsion in infant children." In the same year with Millar's book appeared, in the Philadelphia Gazette, Rush's brief account of this disease.† Underwood‡ briefly notices it; and Dr. Ley refers to Wichmann, as having given the best account of it of any foreign writer. Of late years this complaint has become more generally known, and many cases of it have been related in the medical journals. Dr. Ley refers particularly to the cases by Mr. Pretty;§ one by Dr. H. Davies,‖ who records the dissection

* Observations on the Asthma and Hooping-Cough. 1769.
† On the Spasmodic Asthma of Children, by B. Rush, M. D. London, 1770.
‡ On the Diseases of Children. Edit. 6. Vol. i. p. 51.
§ London Med. and Phys. Journal, vol. lv.
‖ London Med. Repository, vol. xviii.

of a fatal case; and the observations of Mr. North, afterwards collected and remodelled in his work on the Convulsions of Infants.*

"The two former writers, however, have been perhaps somewhat precipitate in their adoption of the speculative views of Dr. Clarke, as to the dependence of this disease upon vascular congestion within the head; whilst the last, who, when he first communicated his sentiments to the public, had never seen it terminate unfavorably, denied the connexion altogether, and combated with much success the Herculean attacks too indiscriminately made at once upon the disease and upon the constitution. Mr. North has since, in his 'Observations,' with the candor of an ingenuous mind, modified his first statement as to the universally slight character of this complaint. He acknowledges that it may be occasionally fatal, though much less so than has been generally believed; and he mentions one instance in which it destroyed the patient, and in which were discovered after death evidences of head affection; but he still denounces, in energetic terms, the heroic remedies so generally employed." (*Introduction*, p. xlviii.)

Gooch designated this disease by the term of "child crowing." Some interesting details respecting it were given by Mr. Hood, in the Edinburgh Journal of Medical Science for July, 1827. Dr. Marsh, in the Dublin Hospital Reports, vol. v., and Mr. Joy, in the Cyclopædia of Practical Medicine, have both contributed to our knowledge of the disease. In another part of the present number, we give an account of the complaint as noticed by the German physicians, with their peculiar views as to its causes. (See Part III. *On Thymic Asthma.*)

History of the Disease. Few affections of infants are more calculated to excite the attention and fears of the friends and medical attendant than the sonorous inspiration of "crowing children." This distressing malady, always formidable in appearance, and occasionally fatal in reality, consists essentially of a constriction of the glottis, which impedes the passage of air into the chest, even in the mildest cases, and sometimes suspends altogether for a time the respiratory function. The child has an interruption, more or less perfect, of its breathing, and, after vehement struggles, it at length succeeds in drawing in its breath with a shrill sound, like the peculiar inspiration of croup and hooping-cough, and arising from the same cause, a temporary diminution of the area of the rima glottidis. These attacks are paroxysmal, and vary in their frequency, severity, and duration. At first the intervals are considerable; but, in the progress of the complaint, the attacks become so frequent that the child scarcely rallies from one before another commences. In its earlier stages the attack is often very slight, and speedily and spontaneously yields, and terminates in a fit of crying succeeded by refreshing sleep. As the disease advances it increases in violence, and becomes unyielding in its character. In the earlier periods of the complaint, the attacks generally take place in the

* Practical Observations on the Convulsions of Infants, p. 253. 1826.

night, or after tranquil sleep; but, when it is firmly established, and sometimes from the commencement, they come on in the day from trifling or from no apparent causes.

After commenting upon the various and generally inappropriate terms by which the disease is designated, Dr. Ley adopts, as the least obnoxious to objection, the name of "Laryngismus Stridulus," given to it by Mason Good. It points out at once the seat of the affection and the characteristic symptom. The shrill sonorous inspiration, so characteristic of the complaint, marks very unequivocally its seat. It is evident that there is an unusual approximation of the sides of the glottis, as in croup or hooping-cough, in which there is also a close approximation of the sides of the rima glottidis.

"Where the closure of this chink is not perfect, the child struggles for its breath, the respiration is hurried, the countenance generally bluish or livid, the eyes staring, and each inspiration is attended with a crowing noise; where it is more complete, and this state at the commencement of the paroxysm, according to my observation, is much more frequent, the function of respiration is entirely suspended for a while, there is an effectual obstacle to the admission of air, the child makes vehement struggles, by some termed convulsive, to recover its breath; at varied intervals, from a few seconds up to a minute, or, upon some occasions, nearly two minutes, air is at length admitted through the glottis now partially open, and this rush of air passing through a very narrow chink produces the peculiar sound. To these symptoms not unfrequently succeed a fit of coughing or crying, which terminates the scene; or, if the glottis be not even thus partially open, the child at the end of from two to three minutes, at the utmost, will die of asphyxia; pallid and exhausted, it falls lifeless upon the nurse's arm, and it is then that the child is generally said to have died in a fit." (P. 11.)

During the violent struggles for the recovery of the breath, all the muscles supplied by the respiratory system of nerves are thrown into violent action. The face is pale and cadaverous, and the external veins are turgid with highly carbonized blood. When the attack terminates fatally, it is not uncommon, immediately before death, to meet with true but generally slight convulsions. The peculiar contraction of the flexors of the thumb, fingers, wrists, ankles, and toes, is deemed by many writers an important, if not essential, mark of the disease. Dr. Ley thinks the frequency of this symptom has been over-rated by Clarke, North, and Marsh; he doubts, too, its convulsive nature, and regards these contractions as more nearly allied to feebleness of the extensors than spasmodic contraction of the flexors. This idea is opposed to the general opinion, but we have no doubt Dr. L.'s view of the subject is well founded.

"Another symptom which has escaped the notice of the greater number of writers upon this disease, but has not been overlooked by Mr. North, is the sound of mucus in the trachea. 'When the child wakes from its sleep, the breathing is for some moments unusually accelerated, and is accompanied by that kind of noise which an increased secretion of mucus in the air passages would produce.' This symptom is rarely entirely absent, but is particularly apt to occur either just before or for some time after a paroxysm. In other cases, however, I have known this

symptom amongst the most prominent phenomena of the disease; lasting for weeks, sometimes with little interruption even for months, and attended from time to time by cough, so like hooping cough, as to deceive the most experienced. It is this symptom, indeed, which has led to the disease being confounded with the more severe forms of catarrh with increased secretion: and were it not for the freedom of the lining membrane of the fauces, nares, and frontal sinuses, from inflammation, would almost justify the terms 'catarrhe suffocant,' and 'catarrhus suffocativus,' by which this complaint has been known to some." (P. 15)

Most writers are agreed in considering that there is a natural association of this disease with convulsions; but it may exist simple and uncombined, as described by Dr. Marsh and by Dr. Ley. The occasional association of this disease with the carpo-pedal contraction and general convulsions led Dr. Clarke to consider that it was essentially connected with cerebral congestion and pressure; "but this opinion requires confirmation." Dr. Ley was at first inclined to yield to the high authority of Dr. Clarke, but more extensive and accurate observation led him to doubt, and ultimately to disbelieve, that such connexion is invariable or even general. He has been able to trace little in the symptoms of the disease, in the influence of remedies, or in the appearances upon dissection, to countenance, much less to establish, such relation. This is, in our opinion, a very important point. We are sure, from abundant observation, that Dr. Ley's experience has led him to a correct conclusion, and we are equally convinced of the mischief very often inflicted by those who pertinaciously adhere to, and who shape their practice by the creed of Dr. Clarke.* Dr. Ley does not deny that the two maladies *occasionally* coexist.

Causes of the Disease.—Age. All writers agree in regarding this disease as one of infancy and childhood. Even those who allow the greatest latitude restrict it to within the ages of twelve or thirteen years; the most accurate observers confine its appearance to much more narrow limits. Professor Hamilton describes it "as peculiar to the age of cutting the deciduous teeth." Dr. Ley has seen it in one instance at four or five years of age, and in a second at six or seven;" but the great majority of cases unquestionably occur before the completion of the first dentition." This quite accords with our own experience; and we also agree with Dr. Ley, "that its all but exclusive appearance before the age of twelve or thirteen is probably to be referred to the size of the larynx at that time."

Constitution. A constitutional tendency to this complaint may occasionally be traced in whole families. Mr. Pretty states

* Dr. Merriman states, (edition of Underwood, p. 139,) "In two cases of the kind, the children died in the fits. They were both opened by Mr. Sweatman, a very skilful anatomist, but not the slightest appearance of cerebral affection could be discovered in either of them. The principal deranged structure discovered was a collection of small glandular swellings in the neck pressing upon the par vagum."

that three children of his own, and three in the family of a patient, were attacked in succession. Mr. North mentions an instance in which three children in the family were successively attacked, and Dr. H. Davies announces it as a general truth.—Dr. Ley's experience amply confirms these statements, and we have recently had striking proofs of their accuracy.

Climate and Season. The disease, says Dr. Ley, is much under the influence of climate and season. In dry, elevated situations, and warm climates, it is little known; and hence the scanty information and erroneous views entertained respecting it by many of the German, and some French writers, who frequently pronounce for the identity of a disease of which they know little or nothing, the asthma of Millar, with another with which they are very familiar, croup.* But, in the south and damper parts of France, the asthma of infants is well known, and is described by Baumes † as the "catarrhe suffocant nerveux."

"It is probably to the change in the American climate, in consequence of the inhabited parts of that country being more cleared of its forests of timber, and its greater immunity, therefore, from diseases the result of fogs and damps emanating from the decay of vegetable matters, that the earlier American writers speak with so much confidence of this disease, whilst now they doubt its very existence; and this also probably accounts for the changes of opinion which Rush successively adopted in the intervals betwixt the publication of his letter to Millar in 1770, the publication of his first edition of Inquiries and Observations in 1794, and that of the second edition in 1805, with regard to this disease and its relation to croup." (P. 56.)

The constitutional tendency thus engendered by damp situations and seasons, is much aggravated by sudden vicissitudes of temperature; and hence the frequency of the disease in this country. The knowledge of this fact leads Dr. Ley to offer a few very proper remarks upon nurseries, which are generally but ill protected against such sudden alternations.

Diet. Indiscretions in diet notoriously aggravate the disposition to this disease.

Scrofula. Dr. Ley is inclined to believe that the causes just mentioned predispose to the disease, by establishing a disposition to scrofula.

"The similarity and even sameness of the circumstances which thus increase the tendency, at once, to the constriction of the glottis in infants and to scrofula, the great characteristic of which is glandular enlargement, would render it highly probable that there was some essential connexion between the two, even if there were no more direct and conclusive evidence upon the subject." (P. 59.)

Facts are given in support of this opinion.

Exciting Causes—Dentition. The most judicious writers upon this disease concur in the assertion that it has much to do

---

* Vide Albers Comment. de Tracheitide infantum, vulgo Croup vocata, p. 50; and also J. C. Albersii Comment. de Diagnosi Asthmatis Millari. Gottingæ, 1817.

† Des Convulsions dans l'Enfance. 1789. P. 365.

with the process of teething. The observation of Cruikshank, that the glands of the absorbents of the neck frequently "swell in children from inflammation of the gums and alveolar processes in teething, and recover after the teething is over," might have led to the suspicion that such swelling of the glands constitutes an intermediate link in the chain of events; and the experience and observation of Dr. Ley, and of others since the promulgation of his original views, confirm the suspicion. "Scarcely an instance has occurred to me, since my attention has been very strongly directed to the subject, in which there has not been the strongest foundation for the belief that either the glandulæ concatenatæ of the neck or the thoracic absorbent glands have become morbidly enlarged." Instructed by Dr. Ley, we have also paid particular attention to the subject, and in confirmation of his statement, we may observe that in one family, three children were attacked with this disease. In each the glands of the neck were enlarged, and in each the symptoms of the disease subsided as the glandular affection was removed by change of air and appropriate treatment. Dentition is analogous in its influence to that of any other cause of local irritation, common, or specific, upon glands situated in the course of those lymphatics which lead from the part excited to the venous circulation in which they terminate.

"The inflammation of the gums, or alveolar processes, or enveloping membrane of the teeth, may produce morbid excitement of those glands in the neck, through which the lymphatic vessels from the teeth and gums are passing to their ultimate destination, and cause their enlargement even in the absence of all strumous taint; but still more certainly if such taint exist. This explains the fact noticed by Hamilton, that the complaint has 'appeared in the most robust as well as the most delicate infants,' and the statement of Etmuller, that it is a complaint of children 'plus minusve robustorum.'" (P. 62.)

Inflamed and Ulcerated Scalp, which is common in children from various causes, is generally attended with enlargement of the absorbent glands of the neck, and hence, again, may arise the croupy inspiration. Dr. Ley observes, that "the connexion of the inflamed and ulcerated scalp and enlarged glands has been rarely noticed, although it has not altogether escaped observation." We hope, and are inclined to believe, that he here under-rates the attention of practitioners to a very common chain of events. We apprehend that every medical practitioner, of even but moderate experience, is perfectly aware of the fact that in such instances there is almost always more or less glandular enlargement. It is a popular and even a professional opinion, that the sudden disappearance of eruptive ailments produces convulsions and other ailments in children, from the repulsion of acrid matter, rather than from the irritation of existing eruptions. This we have long doubted, and so has Dr. Ley, who has been, we believe, very correctly informed by Mr. Kelson, that reitera-

ted experience had convinced him that, where convulsions were associated with such complaints, they were the result, and commonly in proportion to the extent, of the local excitement; that they had no reference whatever to the retrocession or repulsion of these eruptions; that they ceased as these appeared less angry or disappeared; and that in such cases, the best mode of obviating the occurrence of convulsions, or other serious ailment, was to cure the eruption as speedily as possible. To this opinion, we, with Dr. Ley, perfectly assent, "with a modification of the statement founded upon the necessity of attending to any internal cause, of which the eruption and the convulsions may have been the compound result, and of establishing some vicarious discharge, especially by the bowels, where the constitution has been long accustomed to the drain from an extensive surface, whether from the discharge of tinea capitis, crusta lactea, or excoriation behind the ears." As we know this is to a certain extent opposing a very popular impression and prejudice, we may observe that it is supported by the valuable authority of Bateman and Dewees. The latter* gives a caution, also given by Dr. Ley, that the diet should be restricted, and aperients administered, when the drain is suppressed. We know that the general, and as we believe, imaginary fears of the suppression of eruptive diseases in children, often reduces the practitioner to a mere spectator of a long-continued, and at least disagreeable and unsightly malady, when he would, if he were released from the trammels of prejudice, adopt an active and efficient practice. In two cases detailed by Dr. Ley, it appears that the excitement arising from excoriations and acrid discharge behind the ears, produced no "crowing" till glandular enlargement took place.—When the crowing was violent, the increase of size of the glandulæ concatenatæ could be distinctly traced throughout their whole course: as by proper treatment their enlargement subsided, so did the functional derangement of the glottis.

"But the glands required some little time after the disappearance of the eruption completely to resume their original form and size, and, during this interval, a remnant, as it were, of the symptoms remained. It is upon the same principle that I would explain the fact, noticed by Mr. North, which has abundant foundation in fact, that, when this complaint arises from painful dentition, 'the symptoms do not vanish instantaneously, as if by magic, the moment a tooth starts through the gum. They pass off gradually.' In other words, after the gum and enveloping membrane of the tooth have been relieved from swelling and inflammation by the free use of the gum-lance, some time is still requisite for the irritation and tumid state of the cervical glands to subside." (P. 64.)

Head Affection. Dr. Ley, aware of the practical mischief that has arisen from too readily adopting the opinions of Dr. John Clarke, or rather from pushing these opinions further than

* On Children. Philadelphia, 1825. P. 316.

that very distinguished writer probably ever intended, argues this topic at much length, and very ably. Various practical authorities are referred to, in confirmation of the author's belief that, although vascular excitement of an inflammatory character within the cranium may occasionally produce the crowing inspiration, the weight of testimony is decidedly adverse to the conclusion that such relation is frequent, or that it is direct. "The pathological condition within the cranium may be the cause of the convulsions, and in some instances of the death of the child; but the breathlessness and crowing are the consequence of the enlargement of the glands."

"The head affection may be prior, and produce, by remote and indirect consequence, the laryngeal complaint; they may occur together, as mere coincidences, without any other association than the existence of a constitutional malady, which may be the common cause of both; the cerebral disturbance, again, may be the consequence of the frequent attacks of breathlessness, almost amounting to asphyxia, which, by impeding the flow of blood through the lungs, causes accumulation within the cavities of the heart, and, subsequently, venous congestion within the cranium; and this may be followed by effusion of serum into the ventricles or between the membranes of the brain, and, occasionally and remotely, by inflammation and its ordinary consequences." (P. 81.)

Upon some occasions, Dr. Ley has had strong reason to suspect that simple bronchitis and disease of the lungs has, by contiguous irritation, caused enlargement of the bronchial glands, and thus rendered the original disease more intractable, and occasioned the crowing inspiration.

Causes of the Paroxysm. The symptoms of this disease are not constant; they recur at varied intervals, the intermissions being complete;

—"and the various other causes, which authors have enumerated amongst the occasional causes, are just such as excite the paroxysms. In considering these, I shall first notice those which are enumerated by other writers, and principally in the order in which they have noticed them, that it may not be imputed to me that I have allowed my observations to be warped by any preconception, which might be suspected to originate in the peculiarity of my views with respect to this malady." (P. 85.)

After mentioning the causes, of most frequent operation, enumerated by the best authorities, and which are apt to produce the paroxysms, Dr. Ley states that his own experience amply confirms the majority of the facts upon the subject which these writers have adduced: but, he continues,

"No one, however, as far as I know, has traced the mode of connexion of the predisposing and exciting causes of the disease with the phenomena which present themselves in its course; authors generally contenting themselves with alleging that it is a convulsive disease; that it arises from a variety of remote causes; and some, more minute, if not more accurate, in their speculations, referring it to an affection of the head, without, however, even an attempt to explain how it happens that this affection of the head should thus select one set of fibres, connected with this complicated chink, to the exclusion of all the others, although they all are close to each other, and derive their nervous influence from one common trunk." (P. 102.)

It results from the examination

—"that the causes of the paroxysm are such, as, by natural association without morbid influence, involuntarily close the glottis; that the breathlessness, which commonly precedes the sonorous inspiration, cannot, therefore, be from this closing of the rima glottidis, which, in such cases, is perfectly normal, but must arise from defective power in those agents, whose office it is to open that chink; and, lastly, that the crowing inspiration, which is nature's imperfect cure of the temporary suspension of breathing, arises from the chink being only partially open for the admission of air, and remaining so until some explosive expiration, such as screaming, crying, coughing, or belching, shall mechanically burst open the floodgates, and perfect the recovery from the paroxysm." (P. 103.)

We have no doubt that Dr. Ley's claim to originality is perfectly well founded. For many years we have sought in vain for information upon the subject in the works of English and foreign writers, and have only found speculative opinions offered to explain the phænomena of this disease. We shall find ample reason, as we proceed, to come to the conclusion that Dr. Ley's views rest upon a much more solid basis.

Pathology of the Disease. Dr. Ley dedicates fifty pages of the work to the discussion of this part of the subject, and, as far as we know, the whole train of investigation, as well as the very important and well-ascertained results that flow from it, are entirely original. By nearly all commentators on this disease it has been believed that the temporary suspension of the breathing from a complete closing of the glottis, as well as the subsequent crowing inspiration from its imperfect opening, must have been the result, not of absolute or relative want of power in the opening muscles, but of excessive or anormal contraction of those which close the glottis. Hence the addition to its genuine name by a large majority of writers upon this complaint, of some adjunct or epithet which involves the postulate of its convulsive character. Dr. Ley very impartially examines the arguments that have been adduced to establish the convulsive character of this malady, and, among others, he very fairly criticises and corrects certain opinions that we entertained in common with others upon the subject, until taught better by his arguments and *facts;* and he succeeds in showing very clearly "that there is no sufficient evidence of the spasmodic character of the laryngismus stridulus."—"*It may be*, therefore, that the glottis is closed by the usual exertion of natural agents in the performance of some of the most ordinary functions, as swallowing, &c.; and *it may be*, that it remains partially or totally closed from some want of vigor in those antagonist powers which should again efficiently open that chink for the purposes of respiration; and to these conclusions an investigation of the remote causes, and their mode of operation, has already led me." Adopting, in the early part of his life, but never satisfied with, the current pathology of the disease, Dr. Ley was led to make minute and exact enquiries as

to the class of constitution most liable to it,—of which the strumous is, beyond all comparison, the most frequent,—as well as into the causes which directly produced it. He found that the complaint arose from causes differing in situation and in essence; and he was driven, for the purpose of obtaining a more satisfactory explanation, to seek for some intermediate link in the chain of events common to them all, and of general, if not universal, occurrence, in combination with the laryngeal affection to which the symptom might be referred.

"The result of this enquiry has been to establish in my mind the conviction, that such common link, be the remote cause of this very peculiar symptom what it may, will, in the immense numerical majority of instances be found to be enlargement of the thoracic or cervical absorbent glands. All the principal causes of the disease, as contradistinguished from the causes of the paroxysms, are capable of producing such enlargement, and experience confirms what a very general pathological connexion might have suggested; for I have found the relation between such enlargement and the crowing, when it has occurred, all but universal, and proved by observation during the life of the patient, or the examination of the body in fatal cases; and even in the very few instances in which it may have been difficult to detect the glandular affection, in consequence of the change of form in these glands from the compression of superjacent textures, or from their being within the thorax, the occurrence of similar symptoms might justify more than suspicion of its existence. 'Une maladie ne peut dépendre que d'une espéce de lesion.'" (P. 113.)

But how happens it that this fact has been so long overlooked? In the first place, the disease is "not commonly" fatal; secondly, examinations after death are generally carelessly conducted; those organs alone are examined which were previously suspected to have been in fault; and, thirdly, the very frequency and notoriety of enlarged bronchial or cervical absorbent glands has prevented them from being particularly noticed.

"But it is not enough thus to have traced such connexion: it is requisite that I should point out what is the nature of the relation which these two occurrences bear to each other,—to associate, in fact, the symptoms as the effect, with the pathological condition as their cause." (P. 114.)

This subject involves the results of minute anatomical research, physiological experiments, and pathological enquiries, and verifies the observation of Sir Charles Bell, that "it is the knowledge of the nerves of respiration distributed on the neck, throat, and thorax, that will enlighten the physician in distinguishing the symptoms of disease." The two clusters or chains of glands, subject, from a variety of causes, during infancy and childhood, to induration and enlargement, are in the immediate vicinity of organs of vital importance in the animal economy, and can scarcely fail, when enlarged, to exercise a pernicious influence upon parts with which they are then in contact. In children, absorbent glands are rarely sufficiently enlarged to encroach upon the area of the trachea, or much to interfere with the circulation of the blood; but they occasionally obstruct lymphatics in their

course, and may impair materially the function of neighbouring nerves.* After arguing upon and satisfactorily establishing these points, Dr. Ley comes with apparent necessity to the conclusion that the phænomena of the disease must be accounted for by some influence which the enlarged glands exercise upon the respiratory nerves. In the Appendix, abundant and extremely interesting proofs are given, that nerves may be affected in this manner. If there be much enlargement of the glands situated at the root of the lungs before and behind the bronchi, blending with others upon the arch of the aorta, not unfrequently between the origin of the carotids, and which are but continuations of those which follow the course of the trachea downwards, it is highly probable that the recurrent nerve, at its origin, may be subjected to their injurious influence, seeing that this nerve, upon the right side, turns round the subclavian artery, as it emerges from the innominata, behind which the nerve passes close to the origin of the carotid upon that side; whilst the left recurrent winds round the arch itself of the aorta, generally between the carotid and subclavian arteries, upon and about which these glands are situated. If, too, the deeper-seated chain of cervical glands are enlarged, they may affect the recurrent in its course; for they lie in the cellular tissue, which forms a cushion to that nerve. And now the curious and interesting question arises,—what would be the precise effect of such injurious influence, or positive pressure, upon the recurrent? This topic Dr. Ley argues at much length; briefly in the body of the work, but elaborately in the Appendix, where the reader will find the details upon which his statements rest, and may hence determine how far his inference is justified, that this disease, the spasmodic character of which has been conceded without examination, *is more allied to paralysis than to convulsive movement.* We regret that we cannot enter into the very interesting facts which Dr. Ley adduces in proof of this original position. We are satisfied that he has established it, and freely admit the instructive lesson we have received from him.

"This may appear a startling proposition to those whose habitual train of thought and mode of expression have referred to spasm as constituting the essence of this disease. But the prejudices of early education and impressions are not easy to eradicate; and belief, founded upon the presumed infallibility of the teachers whom we revere and the authorities which we respect, is apt to take irresistible hold of the mind, which yields to the seductions of indolence. It was long, therefore, before conviction was forced upon me by the reiterated cases which, since my attention has been more strongly directed to the subject, have presented themselves to my notice; and it may be probably the same with others. I thought '*more majorum*' that there was spasm from excess of nervous energy. The symptoms,

* In the Med.-Chir. Notes and Illustrations, Part I., by Mr. Fletcher, of Gloucester, the student will find many very interesting cases of "Spasm of the Glottis" from various causes.—Rev.

however, if minutely examined, are not those of excitement of either the par vagum, or the recurrents; but they bear a striking analogy to those, which the experiments of physiologists have proved to be the result of an annihilation of the powers and attributes of those nerves, as where they have been tied or divided, or where a portion of them has been excised. When these respiratory nerves are excited, either by mechanical irritation with a pointed instrument, as in an experiment of Cruveilhier, or by inflammation in conformity with the pathological observations of Breschet, Autenrieth, and Gendrin, and as occurred in an interesting case recorded by Sir Astley Cooper, violent paroxysmal cough, like hooping-cough, has been, I believe, universally the result; but there are no attacks of breathlessness, amounting almost to asphyxia, as occur in this complaint. The other symptoms, also, show in this malady a state of paralysis in the other parts supplied from the same common trunk. So the transverse fibres, behind and connecting the rings of the trachea, losing their contractile power, the sputa accumulate in the air passages; hence the 'prodigious rattling in the upper part of the aspera arteria, resembling that sound which attends where there is phlegm that cannot be got up, scarce sensible when they are awake, but very great when they are asleep,' described by Dr. Molloy,—'that kind of noise which an increased secretion of the mucus in the air passages would produce,' noticed by Mr. North." (P. 124.)

Continuing the argument, which he fortifies on every side, Dr. Ley contends that, even if it were conceded that these glands acted by exciting these nerves, it would not only not explain, but would be inconsistent with the facts. "Excitement of these nerves would cause contraction of the muscles upon which the nerves are distributed; but this contraction would open the glottis, not close it; for the recurrents endow the opening, not the closing, muscles with contractile power." But the approximation of the sides of the glottis, thus produced by defective power of the opening muscles, may be either complete or partial.—If complete, the child may be carried off by convulsion, or by asphyxia without convulsion. More commonly, however, the glottis becoming gradually but partially open, air rushes through the still contracted aperture, producing the sonorous inspiration so characteristic of this disease; and this commonly announces the partial recovery of the child. It is admitted that the laryngismus stridulus may occasionally depend upon a spasmodic affection of the closing muscles of the glottis;—

—"but the general history of the predisposing and occasional cases of the disease, the exciting causes of the paroxysms, and the appearances upon dissection, all point to the conclusions, that such is rarely the case, and that an immense numerical majority of instances of this complaint are the result of a paralytic affection of the recurrent laryngeal nerves, produced by the compression of enlarged and indurated glands in their course." (P. 133.)

Several, and some very plausible objections may be brought forward against these novel views of Dr. Ley's. He investigates those that have yet been made, and alludes to others likely to be adduced; and he succeeds, in our opinion, in satisfactorily showing that the objections to his doctrine are more apparent than real. That the laryngismus stridulus of infants is very frequently mistaken by the public, and not seldom by medical practitioners, for other diseases, some of which more or less re-

semble and are analogous to it, and others from which it essentially differs, must be a well-known fact to all who are much consulted upon such subjects. The diagnosis of the disease is therefore an important topic, and in the twenty pages Dr. Ley has devoted to its consideration, he clearly points out the distinction between it and other maladies with which it is so often confounded by the careless or inexperienced.

The *prognosis* in this disease has been a fertile source of variety of opinion.

"Simpson, Hamilton, Clarke, and Gervino consider it as a complaint which very materially implicates the safety of the patient; North, on the contrary, thinks it rarely fatal; whilst Millar, Rush, Underwood, Merriman, and Marsh, allege that it will generally yield to proper remedies. The means, however, recommended by Millar, Rush, and Underwood, although they resemble each other, differ from those suggested by Merriman; these, again, vary from the remedies advocated by Marsh; and Clarke adopts a practice different from each, and discountenanced by all." (P. 177.)

Dr. Ley's impression is, that, if this disease be treated early, and before the balance of circulation within the head has been much disturbed, that recovery may be expected in the majority of instances; and that those children have a much better chance of escaping who are not subjected to any severe discipline, than those, who in compliance with the prevailing doctrine with regard to this complaint, have been freely bled, had large doses of calomel, and such other remedies as the supposition of the invariable dependence of the disease upon cerebral turgescence or excitement has suggested. This doctrine we have always maintained, and more extended observation still further convinces us of its accuracy: and we must be allowed to express our surprise that, in spite of the host of facts arrayed against it, the bleeding and heroic doses of calomel treatment is pertinaciously adhered to, from the unfounded apprehension that hydrocephalus must result from it, if this "protective" plan be not boldly enforced.

"The prognosis in individual cases of this disease is principally founded upon the age of the child, upon the frequency and severity of the attacks, upon the degree to which the glands are enlarged, upon the situation and cause of such enlargement, upon the extent to which the venous circulation within, or in its course from the head, is interrupted, and upon the existence or non-existence of the most formidable of all its combinations, that of arterial excitement and its consequences, including inflammation, serous effusion, and thickening of the membranes of the brain." (P. 180.)

Treatment. We perfectly agree with Dr. Ley, that the conclusions to which he leads us with regard to the nature of the disease are calculated to clear up much of the uncertainty and obscurity which has hitherto prevailed as to its treatment.* The primary object must be to ascertain if any of

* Dr. Ley refers in a note to the evidence he has received, since the foregoing pages were printed, from different respectable practitioners whom he names, in confirmation of his pathological views of this disease.

the glands so frequently alluded to are enlarged; to trace the cause of such enlargement, and to adapt our remedial measures to the cause. We must not infer the non-existence of glandular enlargements because we cannot detect them during life. Tumid glands even in the neck may escape detection; if within the thorax, they are not to be detected. "But, as similar diseased conditions commonly produce the same or similar results, we infer from the occurrence of the latter the existence of the former." But the pathological condition of these glands only establishes the liability to the attacks. The paroxysms generally require for their production the intermediate agency of some other event, which is to be considered as their exciting cause.—It is therefore a second, but important, point in the treatment, to distinguish, and to prevent or to counteract, the operation of these causes of the paroxysms.

"As, moreover, the attack has been in some instances suddenly fatal by producing suffocation, the patient can never be considered as quite free from hazard, and it is necessary, therefore, so to treat each paroxysm as to shorten as much as possible its duration. This more particularly requires attention in those instances in which the breathing is completely suspended, for the restoration of which it is sufficient to procure, if practicable, even that imperfect inspiration which the crowing sound implies; for by this is insured, at least, the temporary safety of the child." (P. 194.)

The disposition to this disease is often a family peculiarity, but occasionally it is generated by the untoward agency of external circumstances, over which we have more or less control. Thus, in dry and elevated though cold situations, it is not frequent; the contrary obtains in low marshy situations. It is more frequent in crowded cities and large manufacturing towns than in the country. It is more prevalent in winter and spring than in summer or autumn. The admitted accuracy of these facts suggests appropriate care on the part of the friends, and appropriate counsel on the part of the practitioner, as far as climate, situation, and season, are concerned. "Warm clothing, too, is all important." Upon this subject Dr. Ley offers several remarks, which are not merely valuable in reference to the disease under consideration. We have often occasion to lament the folly and pertinacity with which children are exposed, half naked in fact, but in perfectly fashionable attire, to our ever-varying climate. This is popularly called "hardening" the child. We regard it rather as an experiment to ascertain how much a child can bear without positive injury to its health. The mischiefs that hence arise are, unfortunately perhaps, not generally of immediate occurrence. If they were, the custom would, we suppose, be speedily abandoned; but, in spite of the "hardening" system, a delicate child does not "get on," and sooner or later scrofula appears in some of its forms, especially if there be any hereditary tendency to this, so called, and real "evil." It is

very pertinently remarked, that, in dry and temperate weather, children ought not to be debarred from exercise in the open air, even if they have the mucous *rale* so frequently observed in this disease. There is no inflammation of the air passages to be aggravated. In the ordinary language, there is merely an increased secretion of mucus; but Dr. Ley regards the symptom as dependent "upon accumulation of the ordinary secretion of the part in consequence of defective powers of the expelling apparatus, which is either enfeebled or paralysed; and upon this condition, weather has little other effect than as it has a tendency to enlarge or diminish the glandular tumours, upon the indirect influence of which that accumulation depends." The warm or tepid bath is a valuable auxiliary in the medical treatment; but let the practitioner remember that, if the child is frightened at the water, and cries or struggles violently, it ought not to be employed; for a paroxysm of the disease may thus be very probably produced. Cold bathing is objected to, and wisely, in this complaint. The *diet* of the child is of the utmost importance: it should, if possible, be confined to nature's food, the breast-milk, during the ordinary period of suckling. "The chances of preserving children who have a family proneness to this complaint will be exceedingly small if it be attempted to bring them up by hand." We know this to be correct: but insuperable difficulties may arise to prevent the child from being suckled. Here we must carefully regulate the quality and quantity of the child's food, and control, as well as we can, the prejudices of nurses.—Asses' milk approaches nearest to the food provided by nature. If cow's milk is used, it should be diluted with about two thirds of sweetened gruel. The grit or barley gruel, prepared barley, and farinaceous food, are more aperient than arrow-root, biscuit powder, flour, or rice. If, therefore, there be any tendency to constipation, the food should be selected from the former; if to diarrhœa, from the latter. Care must be taken, too, that the child is not too frequently fed, even upon proper food. The sucking bottle, with an artificial teat, is the best substitute for the breast. The earliest signs of disorder of the stomach and bowels demand attention, and it must be removed by appropriate change of food and proper medicines. Dr. Ley does not pretend to provide a remedy for scrofula; but, as a strumous taint has so much influence in producing the disease, he touches at some length upon the general management of children thus predisposed to it. Iodine may be employed with fair prospect of advantage in the cure of scrofulous tumours, and Dr. Ley's confidence in the doctrines he has advanced respecting the constriction of the glottis in children is much strengthened by the fact, that the two great remedies relied upon by Dr. Merriman are soda and burnt sponge, combined with aperients; though from

the obscurity which has hitherto hung over the pathology of this disease, Dr. M. had some difficulty in explaining their beneficial agency.

"Iodine or its salts may be employed both externally and internally. The neck and upper part of the sternum may be rubbed twice daily with any simple unguent containing about one eighth of the hydriodate of potass, whilst for administration internally the solution of the hydriodate of potass, according to Magendie's formulary, constitutes as good a form as can be selected." (P. 232.)

Dentition. The most frequent local irritation that causes the disease is painful or difficult dentition, and here all writers strongly advise lancing the gums; and care must be taken that this little but important operation is efficiently performed. The gum, together with the membranous covering of the teeth, must be freely divided: the instrument should be felt to grate upon the tooth.

Head Affection. It is admitted that this complaint has occasionally an intimate connexion with morbid excitement within the cranium; and this relation may be one either of cause, coincidence, or consequence. The medical attendant, then, must be upon his guard, and appropriately modify his treatment to avert the threatened danger. In Dr. Ley he will find an excellent practical guide, who very carefully limits the extent to which debilitating measures can be safely carried in this complaint.—If, after having subdued the convulsions, which are the great evidence of hydrocephalic excitement, the glands remain enlarged, and the "crowing" continues, "*pure country air* will do more to remove this secondary ailment than any remedies with which I am acquainted." For Dr. Ley's comments on the causes and treatment of the paroxysms we must refer to the work itself.

The Appendix, on the "Pathology of the Nerves," occupies nearly two hundred pages; and this we shall notice at a future opportunity. Its object is to establish the truth of those general principles connected with the pathology of nerves, which in the Essay Dr. Ley thought himself justified in propounding, and the truth of which, further and more extensive enquiries have tended to establish and illustrate.

Every page of the work affords proof of the uncommon industry with which Dr. Ley has investigated the subject in all its bearings; and in our opinion, the original views he entertains of the pathology of "Laryngismus Stridulus," which he derives from his own experience, and which he confirms at every point by references to various facts, physiological as well as pathological, contained in the numerous writers he has consulted, are perfectly correct. To these views we yield our perfect assent, not because we readily "catch at novelties," but because conviction is forced upon our minds. If we were disposed to be hypercriti-

cal, we might observe that occasional repetitions unnecessarily increase the size of the work, and that it would have been better to publish the Appendix in a separate form. By its length, the volume is of course rendered much more expensive, and thus we fear may spread less extensively among practitioners, who, without any exaggeration of its merits, will lose a very important and necessary lesson if they do not possess it.

ART. X.

A Treatise on the radical cure of Hernia by Instruments, &c. By Heber Chase, M. D. Philad. 1836. pp. 195.

Until lately the truss was regarded as simply a *palliating* means in hernia. The physician who, twenty years ago, would have proposed to *cure* rupture by the use, simply, of an instrument of this kind would, probably, have subjected himself to the charge of empiricism or imposture. Now and then, indeed, the disease yielded permanently, under the continued employment of the truss; but these fortunate results were regarded as accidental, and not to be calculated on as probable consequences of the use of such an instrument. Percival and Pott denounced all attempts to accomplish the radical cure of hernia by mechanical contrivances, "and these denunciations are scarcely weakened, by the faint hopes of occasional success, to be found in the works of Lawrence, Richter, Sir A. Cooper, Dorsey, and others."

Within the last eight or ten years, however, more correct and favorable views of the utility of such instruments in the cure of hernia have been gaining ground; and it can no longer be doubted, that in a large proportion of cases, hernia may be radically cured by the *judicious employment of a well adapted truss.* The little success which has hitherto generally attended the attempts of physicians to cure hernia in this way, has doubtless arisen mainly from the defective construction of the instruments employed. To obviate this defect, the author of the present work, an intelligent and highly respectable physician, has, for some years past, devoted himself, with much industry and zeal, to the task of improving the different kinds of hernial truss, and he has succeeded, we confidently believe, in contriving an excellent instrument, superior undoubtedly, to any other contrivance of the kind that has hitherto been offered to the public. Of the curative effects of his *inguinal truss*, we have had unequivocal evidence, in several remarkable instances; and there are now in and about this city, some twelve or thir-

teen cases, in which hernia has been radically cured by the use of this truss, under the management of Dr. Thomas Orr, who, from the attention he has bestowed upon this mode of treating hernia, is well qualified, to direct the application and use of this instrument.

The author has reported *thirty-two* cases, which yielded permanently, under the use of his improved instruments. The first sixteen cases, were treated under the observation of a committee of the Philadelphia Medical Society, appointed for this purpose; and the remaining cases reported, were examined, from time to time, during the progress of the treatment, by various physicians of the first respectability.

The following abstract, of the first eight cases reported by the author, will serve to illustrate the usefulness of his instruments:

Case I. This was a case of inguinal hernia of seven years' standing, in a fine healthy lad 13 years of age. After the truss had been used for two weeks, the case was examined by Drs. Horner, Hays and Bryant. The truss was removed, "and the patient permitted to cough, without experiencing any descent of the bowel." Two months after the use of the truss was commenced, the committee report—"that this case has been constantly under the eye of the committee, from the 13th of October to December 5th, and the hernia has never descended. Leaving off the truss with impunity for a short time, while running about, he still re-applied it by the special request of his father, when wandering long distances into the country. The committee have the most favorable anticipations in this case." On the 12th of July—that is, nine months after the truss was first applied—"the patient was examined by Drs. R. Coates and Gage of New York, by whom he was pronounced cured."

Case II. A gentleman, aged about thirty years, was affected with inguinal hernia of the right side, for about four months. The patient was examined by Professor Horner, who recommended him to the care of Dr. Chase. The truss was applied on the 22d of June. On the 24th October, the committee report, "the patient is still under treatment, but has made several efforts while the truss was removed without any protrusion of the bowel, and this accident has never occurred since the first application of the truss." In July, following, "the parts about the rings, and the rings themselves, on both sides of the abdomen appeared perfectly similar." The truss was left off, and the case was "regarded as radically cured."

Case III. This was a case of inguinal hernia on the left side, in a boy about nine years of age, of seven years' standing. The patient was examined on the 10th of October by Dr. Ashmead,

"who found a portion of intestine in the sac. The bowel was returned by Dr. Chase and the truss applied." On the 30th of May, Dr. Mutter, who had repeatedly seen the patient during the treatment, examined the case, and pronounced it radically cured. "The two sides had nearly a similar appearance, but Dr. Mutter was of opinion that the parts on the side where the hernia had existed were a little thickened."

Case iv. This case occurred in a gentleman aged about thirty-five years. Chase's truss was applied, and after it had been worn about four months, the patient was examined by Dr. Hartshorne. "His truss was removed, and he was requested to cough, which he did, as he states, repeatedly and violently, while the Doctor made every necessary examination of the parts. He stated that he could see 'no marks of any thing wrong about the case.' The committee report that, 'there has never been any return of the protrusion since the treatment was commenced.'—The patient has attended to business, without a truss, for some weeks past. The probability of radical cure in this case is very strong." The case was finally pronounced cured.

Case v. This was a case of inguinal hernia on the left side, of many years' continuance. The patient had worn a variety of the most lauded trusses, but without any decided benefit. He applied Dr. Hood's truss under his direction, and continued it for more than four months. This truss produced great pain, probably from pressure on the brim of the pelvis, and did not effectually prevent the descent of the bowel." This case was examined by the committee, and pronounced 'a very unfavourable case for the action of trusses.' Dr. Chase's truss was applied, and although no instrument previously employed, had been able to retain the bowel under ordinary exertion, the patient had no protrusion after the first application of this truss.—Nearly a year after he commenced wearing Chase's truss, the patient was carefully examined, and the hernia declared radically cured.

Case vi. "Master Ruth aged six years, with a robust constitution, has congenital inguinal hernia of the right side." This case was treated by Dr. Ashmead. The boy having several times suffered symptoms of strangulation, Dr. A. directed Chase's truss to be applied. This truss was applied on the 16th of October 1835, and it "completely and uniformly retained the bowel within the abdomen." In March 1836, the case was examined, "in the presence of the lad's mother, who stated that she had, on two occasions, removed the instrument for short periods. The parts about the rupture appeared more thickened than usual." A new truss was now applied, "which covered the

site of the internal ring more completely than the first had done." In July, the case on examination appeared to be radically cured.

Case vii. Miss ———, aged about 28, laboured under femoral hernia of the left side. The case was examined by Dr. B. H. Coates. The truss with the femoral block was applied by Dr. Chase on the 13th of October. November 10th; the bowel has not passed down since the instrument was first applied; and the previous soreness has in a great measure subsided. July 15. "She still wears the truss, and there has been no protrusion of the bowel since the treatment was commenced."

Case viii. This case was treated by Dr. Ashmead. The patient, aged about thirty years, was affected with femoral hernia of the left side, for two years. "For this affection, the patient has tried a variety of trusses, with strong springs and soft large pads, all of which failed in retaining the protruded bowel, so that he despaired of ever being cured. In June last, Dr. Chase applied his truss, which retained the bowel constantly and perfectly, and gave much less pain than the others had done. He says he suffered very little inconvenience from it; indeed it sits so easily that he hardly knows when it is on. It is now three months since its first application; he only wears it when using violent exercise in gunning. Last week, while gunning he forgot to apply it, he jumped over fences fearlessly, without any descent of the bowel being produced. The skin over the spot bears marks of pressure. It is discoloured, hard, and drawn backwards and slightly upwards, as if the soft parts beneath had been absorbed, or as if they were adhering closely to the parts beneath. This patient has relinquished the use of the truss, and is considered radically cured.

The majority of the remaining cases reported by the author, afford equally decisive evidence of the superior excellence of Dr. Chase's trusses; and the fact, that hernia may, in a large proportion of instances, be radically cured by the judicious application and management of a suitable truss, appears now to be fully established.

ANALECTA.

PRACTICE OF MEDICINE.

1. *Chloride of Soda in typhoid fevers.* In 1826, Dr. R. Reid, of Dublin, made some experiments with the chlorides in fever, and published the result, in a paper on the subject, in the Transactions of the King and Queen's College of Physicians for 1827. Encouraged by the favourable result of Dr. Reid's experiments with this remedy, Dr. Graves was induced to try the *chloride of soda* in fevers of a typhoid character; and he states that "when the early stage of fever is passed, when all general and local indications have been fulfilled, when there is no complication with local disease, when the patient lies sunk and prostrated, when restlessness, low delirium, and more or less derangement of sensibility is present, when the body is covered with maculæ, and when the secretions from the skin and mucous membranes give evidence of a depraved state of the fluids, it is then that the chloride of sodium may be prescribed with the greatest advantage. There is no remedy from which, in such cases, such unequivocal benefit is derived. It seems to counteract the tendency to tympanites, to correct the fetor of the excretions, to prevent collapse, to promote a return to a healthy state of the functions of the skin, bowels, kidneys; in fact, it seems admirably calculated to meet most of the bad effects of low putrid fever." More recently, M. Chomel also has employed this remedy in fevers of a low character, and, apparently, with very favourable results. He employed the *chloride of soda*, "and exhibited it, not instead of other remedies, but in addition to them. From a grain to a grain and a half was dissolved in each ounce of sweetened gum water, or slightly bitter infusion if the first produced nausea; and patients were directed to drink as much of this as they could. The greater number took from three to five cupfuls, each holding eighteen ounces. Mucilaginous enemata, containing the same proportion, were ordered night and morning, together with lotions four times daily over the whole body of pure chloride of soda." *

We have also the testimony of Dr. Stokes of Dublin, in favour of the usefulness of this remedy in low fevers. He asserts, that the employment of the chloride of sodium in fevers of a typhous grade, "was followed by the most satisfactory results. It gradually but steadily removed all the bad symptoms, and in all cases the patients had most favourable convalescences." He gave from fifteen to twenty drops in an ounce of water every four hours. It was never continued longer than six days in any one case. Wine, stimulants and nutrients were given with it, according to the exigences of the case.

British and Foreign Med. Rev. No. iii. July, 1836—p. 68.

2. *Hydro-sulphuretted water, a Remedy for Diseases produced by lead.* The liver of sulphur has been proposed since 1777 by Navier, as a counterpoison to lead; but he did not confirm its efficacy by actual experiment, and Orfila having shown its inapplicability, it fell into oblivion. In 1814,

---

* Leçons de Clinique Médicale, faites à l'Hôtel-Dieu de Paris, par le Professor A. F. Chomel, recueillies et publiées sous ses yeux, par I. L. Genett, D. M. P. Paris, 1834. 8vo. pp. 548.

M. Chevalier, having convinced himself that sulphuret of lead had no action on dogs, whilst carbonate of lead was injurious, inferred that hydro-sulphuric acid might be advantageously employed as a counterpoison to the salts of lead; and four years afterwards, being in a manufactory where two men were attacked with violent lead colic, he gave them about a pint of hydro-sulphuretted water, which he found in the laboratory, with immediate relief. He subsequently found similar benefit in his own person. M. Ratier has since confirmed these facts by many trials at the Hospital of La Charité, and gives the following directions. Three indications are to be fulfilled:

1. To neutralize the poison, by giving internally a quantity of hydro-sulphuretted water, proportioned to the known or supposed quantity of the salt or oxide of lead absorbed. M. Rayer has used the "eau d'Enghein," but either of the following artificial preparations may be substituted:

(No. 1.) Take nineteen pints of water, and add one pint of water saturated with sulphuretted hydrogen, in which twelve grains of carbonate of soda had been previously dissolved.

(No. 2.) Dissolve five grains of sulphuret of potash in a pint of water.

The more recent the colic, the more marked the effect. Many obstinate attacks have yielded to this treatment only.

2. To relieve constipation where it exists. For this purpose, M. Rayer prescribes forty-eight grains of scammony and the same quantity of jalap in twelve pills; the patient to take from two to six until they operate. If the constipation continues, a lavement, containing an ounce of senna and two or three ounces of castor-oil.

3. To relieve pain and to procure sleep. For this purpose, one grain or one and a half grain of extract of opium is given at night.

By these means, M. Rayer has rapidly relieved the effects of the salts and oxides of lead, sometimes on the second day, often on the third or fourth, and rarely beyond the sixth. He has never seen a relapse.

M. Lefebvre has communicated by letter the particulars of four cases of colica pictonum in his manufactory, all of which yielded to the sulphuretted hydrogen treatment alone. Half a drachm of sulphuret of potash was dissolved in a pint of water, half of which was taken in two doses each day. Three were cured in two days, and one in one day.

From the injurious effects which white paint made by carbonate of lead has on the healths of painters, as well as occasionally on the inhabitants of recently painted houses, it has been proposed to substitute carbonate of zinc for the lead. From a report of commissioners appointed by the Academy of Architecture in Paris, it appears that the paint made from carbonate of zinc is not unwholesome, and that it preserves its brilliancy and whiteness. At present, however, it is more expensive than carbonate of lead, which would prevent its general adoption; but as M. Chevallier suggests, it may be very useful in painting the rooms where sulphur-baths are given, or privies where sulphuretted hydrogen is evolved, which blackens white-lead paints.

[The general circulation of information tending to the prevention of complaints produced by employments to which large bodies of men are necessarily exposed, is one of our most useful and gratifying duties. Indeed, the value of precautionary measures promising security will be gratefully acknowledged by those who have at all reflected on the task they may have frequently performed of urging a man who has a family dependent on him to leave an occupation which is prejudicial to his health, but for which alone he is properly qualified, from having spent his whole life in its acquisition, whilst, at the time they give this advice, they are conscious that the secession of one will only substitute another equally liable to suffer.

British and Foreign Med. Review, No. iv. p. 576.]

3. *Incontinence of urine cured by nux vomica.* M. Mondicie states that he has employed the nux vomica, with complete success in nocturnal incontinence of urine. A young woman, aged twenty, who from the sixth year of her age, had constantly discharged her urine involuntarily, during sleep at night, was entirely relieved of her disagreeable infirmity by the use of twelve of the following pills.

℞. Ext. nucis vomicæ,	gr. viij.
Ferri protoxidi	gr. j.
M. fiant pil.	xxiv.

4. *On the external application of Croton Oil in affections of the larynx, by Doctor Romberg.* The following cases prove the peculiar efficacy of this species of counter-irritation in affections of the organs of voice; a fact observed by many.

Case i. A fisherman, aged 34, lost his voice after exerting himself greatly in saving some individuals from drowning. There was no reason to suspect any disorganization of the larynx. Blisters, vapour baths, &c. were tried without effect. Frictions of Croton oil were directed over the larynx, to be repeated as soon as the eruption declined. On the twenty-first day of this treatment he began to recover his voice, and regained it completely.

Case ii. A girl, aged 18, suffered during seven weeks with hoarseness succeeded by aphonia, the consequence of a sudden chill. Leeches, emetics, and irritating frictions produced no relief; but, after the third application of Croton oil, an eruption appeared, and she immediately regained her voice.

Case iii. A woman, aged 38, complained for twelve months of a sensation of pressure in the pharynx, as if the neck were squeezed, rendering deglutition difficult; there were no other symptoms. Many remedies were tried without benefit. Three drops of Croton oil were rubbed in, and after the third application, an eruption appeared on the neck, nucha, chest, and face, which was followed by erysipelas. The patient entirely recovered.

Dr. Romberg never found that the external application of Croton oil, had a purgative effect, but he never applied it to the abdominal integuments.—

Dr. Otto reports, in the same journal, the case of a woman affected with sciatica, for which frictions with Croton oil, were made on the thigh, and the whole body became red and covered with vesicles. Dr. Otto never observed its purgative effect when thus applied.

Wochenschrift fur die gesammte Heilkunde, 1835.

5. *The Diagnosis of acute Pericarditis.* The diagnosis of pericarditis may now, according to M. Bouillaud, be formed with certainty in a great majority of cases. The following is a condensed account of the symptoms, physiological and physical, enumerated by him.

I. Pain, more or less acute, below the nipple, or towards the lower end of the sternum, occupying occasionally the whole præcordial region, and sometimes darting towards the axilla and left arm, and at other times towards the diaphragm, epigastric or hypochondriac regions, and especially that of the left side. This pain, which is sometimes very acute and pungent, like that of pleurisy, is increased by percussion, respiration, and cough: it is sometimes so severe as to render it impossible for the patient to straighten the side, or even to lie on it. In many cases the pain is so obscure as almost to be overlooked, and is only complained of when pressure is made from below upwards in the epigastric region; and in some it is altogether absent. The coexistence of a very acute pleurisy, or of a violent articular rheumatism, has occasionally been sufficient to mask it entirely. Yet it is perhaps the *simplest* form of pericarditis which is the

most commonly unaccompanied by pain, and which is hence the most frequently latent, as had been already observed by Laennec; who is here, however, opposed to Corvisart. When the disease originates in rheumatism, pain is sometimes not at all conspicuous, unless a pleurisy coexists, and then it is most violent when the pleuritic inflammation occupies the left side of the chest, and particularly the upper surface of the diaphragm.

2. The beat of the heart is generally increased in strength, and may be either regular or irregular, intermittent or tumultuous. Sometimes, however, the stroke of the heart is almost or altogether imperceptible, which seems to depend on the presence of a very profuse effusion of fluid in the pericardium, by which the sounds likewise are rendered distant and obscure. In one case of considerable effusion it was observed, that the place of the beat of the heart could be changed considerably by varying the patient's posture. When the period of organization is taking the place of that of inflammation, M. Bouillaud has sometimes observed a very singular phenomenon, not hitherto, so far as he knows, noticed by any one else; namely, the second motion of the heart is double, and accompanied by a peculiar, dry, hard sound, (*craquement.*)

3. The prominence of the præcordial region, pointed out by M. Louis, is a valuable sign, which our author has often had occasion to verify.

4. There is an increased extent of dulness on percussion in the præcordial region, which depends partly on the quantity of fluid effused, and partly on the inflammatory turgescence of the heart itself; but the former element has far the greater share in the production of this effect. This is a sign, however, which, like several of the others, can only be expected to be met with in a particular period of the complaint, as it diminishes with the progress of absorption: and in those cases where scarcely any thing but a little coagulable lymph is effused, this symptom will hardly, if at all, exist, or only in relation to the turgescence of the heart. In fine, it is only when there is a considerable effusion of fluid that percussion affords us much assistance in the diagnosis of pericarditis; and here, by altering the patient's posture, the level of the dull sound can sometimes be varied at pleasure. When the quantity of fluid is small, no dulness may be perceivable till we place the individual either erect or sitting.

5. Auscultation, till lately, has done very little for this disease. The sign pointed out by M. Collin, and compared by him to the creaking of new leather, is not admitted by Laennec in his second edition. Its very great rareness may account for this: until recently, as already mentioned, neither Andral nor Louis had ever met with it. Within the last five or six months immediately preceding the publication of the present work, M. Bouillaud has encountered it two or three times, so that from this and from Mr. Mayne's recent paper, in which the evanescent nature of the symptom is dwelt on, we are inclined to think that in many cases it has not been discovered, because not sought for with sufficient assiduity within the short period of its natural duration. It seems to our author to require for its production a peculiar degree of density in the false membranes which rub against each other, and he thinks it may sometimes also depend on the dragging of the adhesions. The sound of friction is very common, and occasionally imitates the *bruit de scie*, or *bruit de rape;* and M. Bouillaud has himself met with the true bellows murmur in at least six or eight cases.

He does not assent to that part of Dr. Hope's explanation of the bellows murmur, which ascribes it to the increased force of the heart's action; for it is absent in many cases of very violent palpitations, and sometimes present when the heart's motions are comparatively feeble. He fully concurs with him, however, in thinking that it may occasionally be produced by swelling of the valves; being convinced that it depends, for the most part, on the coexistence of endocarditis, and in some instances on the fibrinous

concretions within the heart, which are now known not unfrequently to accompany this lesion. The compression of the heart by a large quantity of effused fluid is, he thinks, likewise sufficient to give rise to it.

It is to the general or physiological symptoms of pericarditis that what has been said by authors of the uncertainty of its signs chiefly applies: their variability depending on the degree of intensity of the disease, the number and severity of its complications, &c. Thus the pulse, which is generally much accelerated, may be either large and accompanied with moisture of the skin; or small, hard, and irregular, the skin being remarkably dry. There is occasionally dyspnœa, and an insupportable sense of oppression and anxiety, jactitation, and sleeplessness, and in some instances delirium and convulsions. The face, which may have been pale and sunken at the commencement, if the patient survives a few days, becomes often of a livid or violet hue, and the limbs swell. The suffering induced is often exquisite. Mirabeau, who, as above stated, fell a sacrifice to it in its most violent and acute form, is said to have entreated his attendants to shorten his life and his tortures by opium. The cases in which there is the most vehement reaction are those which are complicated with inflammation of the pleura, especially of that portion of the membrane which lines the diaphragm. The accompanying dyspnœa, when it exists in a very aggravated degree along with faintness and syncope, seems frequently to depend on a large effusion of fluid into the pleura or pericardium, and occasionally also on polypous concretions in the cavities of the heart. Frequent vomiting, from sympathy of the stomach with the inflamed organ, is amongst the occasional symptoms of pericarditis; and, in some of the complicated cases just alluded to, M. Bouillaud is disposed to attribute its occurrence to the proximity of the inflamed pleura covering the diaphragm to the peritoneum, and to the reaction of the diaphragmatic nerves on those of the stomach.

None of the symptoms above alluded to, taken *isolatedly*, can be considered conclusive as to the existence of pericarditis; but, whenever an individual is suddenly seized with feverishness, oppression, and anxiety, and there is smallness, irregularity, and intermittence of pulse, together with pain in the præcordial region, extensive dulness on percussion there, and the sound of friction or creaking within the pericardium, we may affirm with confidence the presence of this disease.

British and Foreign Med. Review, No. iv. p. 316.

6. *On Gastroperiodynia. By Thos. A. Wise, M. D.* As I have not seen any account, by European physicians, of a peculiar disease known in this country by the generic term *sool*, I am induced to offer a few remarks on it, in hopes of drawing the attention of the profession to the subject. Gastroperiodynia, or periodical pain in the stomach, often commences with symptoms of indigestion and heartburn, succeeded by a feeling of uneasiness in the scrobiculus cordis, slight and occurring at irregular intervals at first, and lessening gradually while the pain increases in violence. In severe cases, the paroxysm of acute pain generally occurs rather suddenly, when the stomach is empty; sometimes early in the morning, or three or four hours after dinner; increasing slowly when the digestive process is finished, and the activity of the abdominal organs has ceased. The excruciating pain is confined to the pit of the stomach, particularly towards the right hypochondrium, although the neighbouring parts often participate, as the muscles of the loins, &c. The pain is of a cutting or gnawing nature; and during the paroxysm is intense, from which the patient generally obtains temporary relief from pressure. For this purpose he often turns upon his breast and places a hard ball on the pit of the stomach, on which he rests his body, and keeps rolling from side to side. A few days since I ordered an unfortunate person in this position, to turn round for me

to examine him; but such was the agony, that he could not remain without the soothing influence of pressure. As a substitute, he drew from under his clothes a piece of prepared bamboo, an inch in diameter, and a cubit in length, round at one end. This extremity he placed to the pit of the stomach while he rested the other upon the floor; and by bending the body over it, produced such a degree of violent pressure, that at first I feared he would injure himself, and even penetrate the abdomen. He continued in this position while I gained the necessary information of his state, and then returned to his former position, commenced rolling from side to side upon the hard ball, placed in the pit of the stomach, and his low wailing proved how intense were his sufferings and wretchedness. This was an acute form of the disease, and until checked by remedies, it occurred daily, about four o'clock, and he continued in dreadful agony the whole night. These paroxysms usually occur at intervals of a day or two, and remain from two hours to as many days, with occasional intervals of ease. During these accessions the state of the pulse, although full, continues slow and natural, and there is not usually more heat of body than is occasioned by the continual movement. In the intermissions the patient feels well, and all the functions are performed as when in perfect health. The tongue is clean, but sometimes parched, appetite good, and alvine secretions healthy and regular. So painful are the paroxysms of this form of the disease, that in the Sanscrit works on medicine it is supposed to be produced by the deadly weapon in the hands of Siva, the destroying power of the *triad;* and so incurable that when it attacks an individual, it is declared that even Siva himself cannot remove it. As a natural conclusion to such reasoning, those afflicted add, what use is there in requesting the assistance of a physician? It frequently happens that the unfortunate individual, in despair of being cured, commits suicide, as the only means left of relieving himself, and of propitiating the anger of the Deity.

I have not been able to obtain any certain evidence of the causes which produce this disease. It appears to be the effect of a combination, individually slight; but when occurring in a peculiar constitution, produces this distressing complaint. I have generally known it to occur in the young and robust male; but without being produced by any particular exposure to the weather, or owing to the quantity or quality of the food, The accession seems oftener to occur when the organs are in a state of inactivity, than from causes increasing the nervous susceptibility. I have not seen it in females, although there is no reason why they should not be also affected; but those of a nervous temperament in general are not so liable to it as might be supposed. The severe pain which occurs in paroxysms, the relief obtained by pressure, and the absence of participation in the circulating system, indicates, with sufficient accuracy, the nervous nature of the disease.

The resemblance of paroxysms of gastroperiodynia to those of tic-douleureux is marked, not only in the nature and severity of the pain, but in the means of relief and the difficulty of curing both diseases. The severe paroxysms of otalgia which so frequently occur in this country, some forms of asthma, colic, &c. form examples of the same species, varying more from the situation and nature of the parts affected, than from any difference in the disease itself. The diet I have found most efficacious in gastroperiodynia is liquid farinaceous food, with boiled milk, which in some cases I have seen diminish the violence of the paroxysms. In strong and plethoric persons blood should be taken from the arm; and may sometimes be repeated generally or locally with advantage. During the paroxysms, pressure, heat, tinctures, ether, peppermint, anodynes, particularly opium, henbane and camphor, are of use in diminishing the severity of the pain. During the intervals the oxyd of zinc and bismuth, carbonate of

iron, sulphate of quinine, are all in some cases of use; but it must be acknowledged that the relief is often of a temporary nature; and in some cases diminish, in effect, or even seem to aggravate and prolong the succeeding paroxysm.—*India Journal of Medical Science, March* 1, 1836.

7. *On Debility in Nervous Diseases*, and particularly on *the employment of Tonics in Insanity*. By Dr. Guislain, chief Physician of the Institution for the Insane at Gand.

It is well known that many symptoms, as pain, convulsions, disordered intellect, &c., may be developed under the influence of debilitating as well as of exciting causes. Thus, nausea and vomiting may be produced both by inflammation of the stomach, and by the constant use of watery and mucilaginous drinks. Prolonged abstinence will bring on acute pains in the stomach, which are symptoms also of inflammation, and ulceration of that organ. Anxiety, palpitation of the heart, cough and dyspnœa, may be the effect of undue lactation, abstinence, low diet, &c., as well as symptoms of pulmonary inflammation. Hard drinking will cause mania, as well as abstinence from drink in confirmed drunkards. Want of sleep, convulsions and tinnitus aurium, are symptoms of cerebral irritation, and may be brought on by great loss of blood. Frontal headach may depend on inflammation of the meninges, indigestion, repletion; but it may follow great losses of blood, or prolonged fasting.

Among the same class of facts may be included those cases in which medicines differ in their action, although given under circumstances apparently identical. Thus, cardialgia attended with intolerable suffering is aggravated by antiphlogistics, and relieved by sedatives and tonics. Aromatics, volatile oils, ethers, relieve nervous enteralgias, and the greater number of convulsive diseases yield, not to debilitants, but to tonics, and diffusible stimuli. Irritation, produced by one cause, may affect at the same time the nervous and the vascular systems, and may require, on the one hand, remedies to soothe the pain or to arrest the periodical returns of the disease; and on the other, means calculated to remove the inflammatory condition. This mixed treatment, consisting of the antiphlogistic at first, and the antinervous subsequently, is required in a multitude of cases; as in many cerebral diseases, in affections of the nervous structure in those whose temperament depends on a preponderance of the nervous system in intermittent fevers, and in acute rheumatism, which so often resists antiphlogistics and yields to narcotics and bark. In the treatment of all mental diseases, it is important to recognize the period at which they pass from an active to a passive state: at this latter period the disease only consists in nervous mobility, which is kept up by the functional habits of the nervous system.

M. Barras has observed that a correct idea cannot be formed of the neuroses, if we confine our observation to their external characters only, as a disease may put on the form of great excitement, although it depend on a state of debility. In treating the insane, the same phenomena which indicate the employment of febrifuge tonics in intermittents may guide us; and these may be referred to a peculiar state of the sanguineous system, marked by paleness of the lips, borders of the eye-lids and nostrils: there is also some emaciation, pale urine, pulse frequent but soft, expression anxious, conjunctiva blueish, even sky-blue. This state of the eye is observed in all feeble and delicate men; it belongs to the nervous temperament; it is marked in women with leucorrhœa, or exhausted by lactation, or hemorrhage, and in the insane who have been exposed to debilitating agents. Thus Dr. G. has observed it constantly in those who refuse to eat.

The frequency of the pulse among the insane is in a direct ratio to the mental disturbance; in mania it is less rapid where there are symptoms of

cerebral congestion. In the asthenic period of the disease, its frequency is extreme, and counted with difficulty. After quinine, alone or combined with opium, has been given, the pulse increases in size and diminishes in frequency, and in the same proportion the cerebral disturbance is quieted, the loquacity decreases, sleep returns, and convalescence, when the pulse has regained its healthy type. Sometimes in mania, the pulse is extremely slow, and in these cases quinine is less serviceable than where there is great frequency.

The indication for tonics in insanity is not to be exclusively formed from the disease having been preceded by debilitating causes, such as prolonged lactation, bleeding, &c., although they powerfully increase cerebral irritability; for weakness of the nervous system is also independent of these causes and is most frequently the result of increased action. This active stage however, cannot be considered as one of pure inflammatory irritation, as the treatment proves. A debilitating regimen and emollients calm pain in the active period of neuroses, and sometimes remove them; but in the majority of cases, bleeding, leeches, and antiphlogistics only increase morbid irritability, and particularly at an advanced period of the disease; whilst experience proves the benefit of tonics. It is astonishing, as this is the case, that they should not have been more used in mental diseases.

As practitioners have generally withheld tonics from the insane, from a fear of a congestive or inflammatory condition of the brain, Dr. Guislain attempts to distinguish between insanity with congestion and with mere morbid nervous mobility. This latter condition is characterized by an exaggeration of the functions of the brain. There is no moderation in the manifestation of the feelings, passions, will, ideas of such patients; a trifle awakens their suspicion and hatred; they weep and laugh almost at the same time; the mobility of their features is excessive; they are very talkative, their muscular force is prodigious, and all their acts of locomotion although prompt and violent, are admirably regulated: their memory is acute, and their intellects seem momentarily clear and elevated.

In the congestive condition, the acts of the brain are weakened in proportion to the superabundance of blood in the organ. This fluid oppresses the nervous functions, and at the same time becomes a cause of irritation. This is the case in all inflammations. When the retina is congested, the sight is impaired; whilst, in some nervous affections of the membrane, its functions become more acute. In coryza, the smell is lost, but there is an increased sensibility to odours in many nervous affections attended by debility. In gastritis, there is no appetite, as digestion is impossible; whilst in the most painful cardialgia, the appetite remains. In the congested state of the brain in insanity, there is a gradual extinction of sensibility: the patient expresses no pain when irritated; he fixes his eyes without seeing, and listens without hearing; he has neither fear nor aversion; neither will nor physical force; his features are immoveable: his utterance slow, confused, or impossible; his intellectual powers are equally weakened; there is a progressive extinction of his feelings, memory and ideas, with inclination to comatose sleep.

Between these two extremes there are mixed states, the patient being at the same time in a state of maniacal excitement, whilst his memory is failing, his walk vacillating, and his muscles slightly convulsed. In all cases the state of the tongue throws light on the diagnosis; whenever there is cerebral congestion, its motions are embarrassed; hence the importance of attending to the pronunciation when there is a question as to the propriety of tonics. In those cases which yield to tonics, the amelioration is gradual, the cure taking place some weeks, or even months, after the remedy has been persisted in, even in large doses.

Case I. Amelie T. æt. thirty-six, entered the Institution the 27th of

March, 1834, in a state of violent mania, characterized by cries, vociferations, and incoherent actions. She was a widow with seven children, the youngest of whom was illegitimate, and only seventeen days old. During her confinement, and for some time previously, she had been subjected to great privations, and she had been much alarmed during parturition; the intellectual disturbance commenced suddenly seventeen days afterwards. From the 27th of March to the 2d of April, she was placed in seclusion, and the mania was marked by complete incoherence of speech, hoarseness, cries, fury, weakness of the pulse, dirty complexion, blue colour of the conjunctiva, and dilatation of the pupils. Dr. Guislain prescribed solitude and a tonic regimen; meat jellies, and 20 grains of sulphate of quinine daily. After eight days of this treatment, there was a sensible improvement, the expression of the eyes became natural, the convulsive state of the features gave way to an expression of good humour, conversation rational, voice weak, pulse frequent. April 15th. The amelioration is progressive, she sleeps well, and quietly; pupils contracted, cheeks flushed, pulse slow, she complains of her head feeling empty. Owing to a mistake, a relative was admitted, who reproached her, and she became agitated, could not sleep, and fell into a state of melancholy. By great care, substantial food, and decoction of bark she was restored, and quitted the establishment on the 20th of July in perfect health.

Case II. A man, æt. sixty, had been an in-patient in an hospital for upwards of a year for an asthmatic affection, when, in June, 1834, he became maniacal, and was placed under the care of Dr. G. Day and night he disturbed the other patients by his loquacity, his cries, and songs; his ideas were completely incoherent. Pulse frequent, small, tremulous; urine clear, features contracted, eyes prominent, sparkling, conjunctiva blue, temperature of the skin diminished. He was ordered to take two drachms of extract of bark daily. This was so successful, that, on the third day, the disturbance of his intellect was removed. The medicine was continued during two months; but as soon as the cerebral symptoms ceased, the chest became again affected, and he died eight months afterwards, without having experienced any return of mania.

Case III. N. D., eighteen years of age, had an attack of mania, which lasted six months. At twenty-two years, the political disturbances again brought it on, and this time it put on an intermittent form, returning every eighteen days, and lasting about a fortnight. The attack began with sadness for a day or two, followed by childish gaiety and constant laughter; and this state increased until his fantastic impulses led him to destroy his clothes and break the furniture. On the tenth or eleventh day, he became drowsy, which state terminated in health. During the lucid intervals, his intellect was perfect, and he was able to attend to business, and to enjoy public amusements. The return of the disease was so regular, that these intervals were never prolonged beyond eighteen days. The disease had lasted four years when Dr. G. was consulted. Bleedings, leeches to the head and arms had been frequently and copiously resorted to, without the least success. He directed two scruples of sulphate of quinine to be taken during each interval, and this was persisted in for four successive months. One grain of extr. opii was taken daily during the same period. This at first diminished the intensity of the attacks without arresting them, but suddenly, in September, 1834, they ceased, and he is now perfectly well.

Several other successful cases are detailed; but Dr. G. observes that he does not recommend quinine as a certain panacea in all instances, as he has employed it many times without benefit. Sometimes there was a tendency towards convalescence, which the bark hastened. In no case did it aggravate the cerebral symptoms, although the doses were very large and long continued. It is astonishing that furious maniacs can take beer, wine, or even brandy, without aggravating their disease; indeed, in some cases

there is relief after slight intoxication, and the effect of wine and opium in the mania of drunkards is well known. On the other hand, all those who are practically acquainted with insanity have seen cases aggravated by bleeding; and, notwithstanding this, it is often resorted to with blind confidence. It may be useful to prevent cerebral congestions and disorganization, and at the commencement it has arrested the disease; but such cases are rare, and, during fifteen years' particular attention to insanity, Dr. G. has not had ten cases of this sort. In the great majority of those who were bled more or less frequently, the symptoms have been aggravated; and, even although bleeding may apparently calm the cerebral irritability, yet generally it renders the disease incurable: even where there is cerebral congestion, it may arrest the tendency to coma, render the step more free, and remove muscular contractions; but does not affect the mental condition, and the intellectual disturbance increases. Dr. G. does not recollect to have cured one patient whose pronunciation was embarrassed, or walk vacillating.—*Gazette Med. de Paris, No.* 14, *Avril,* 1836.

8. *On the diagnostic Value of the Deformities of the Chest, produced by Diseases of the Thoracic Organs. By M. Woillez.* The examination and measurement of the thorax of 116 men, in the wards, of M. Louis, have furnished M. Woillez with materials for this memoir. The following are his principal conclusions:—Frequently the natural projections were similar in form to those resulting from disease. Natural projections are very rare on the front of the right side or on the back of the left side, but they are frequent on the back of the right side and front of the left side; these last two are often found together. In the healthy state, the right side measures more than the left; so that measurement of the chest is of little use in the diagnosis of dilatation of the thorax, unless the patient has been previously measured.

M. Woillez first demonstrates that, as the lung tends incessantly to contract by virtue of its elasticity, the dilatation ofthe chest can only be produced when this elasticity (or, as he calls it, this concentric force, by which the ribs are kept in contact with the lung,) is destroyed. In pneumonia, although the lung is evidently increased in volume, there is no enlargement of the thorax. This enlargement exists if the hypertrophied lung is sufficiently large, to project from the chest on opening the body. Projection of the chest takes place in almost all cases of emphysema: from what has been said above, this projection is more valuable as a sign on the right side in front. The disappearance of the intercostal space being always pathological, it is a good mark to distinguish these cases from natural projections. In pleurisy, it has been observed by all that the effused liquid does not accumulate inferiorly in the first stage; this our author explains by saying that the concentric force not being destroyed, there is a tendency to a vacuum in every point of the thorax. In the second stage, on the contrary, the elasticity of the lung is destroyed, the fluid accumulates in the lowest part, and, when it is in sufficient quantity, the chest is dilated. M. Woillez next examines the contractions which supervene after the cure of pleurisies, and explains very well the apparent irregularities which are met with. If, for example, the left side does not appear depressed after the cure of pleurisy, with considerable effusion on that side, it is owing to the existence of one of those frequent projections which the contraction has only diminished. The depression of the nipple is a good sign of an old pleurisy; for, in healthy individuals, in whom the nipples are not on the same level, the nipple which is most elevated is generally on the contracted side. Temporary projection of the thorax is a good sign of partial costo-pulmonary pleurisy. In effusions of air into the pleura there will neither be dilatation of the thorax nor compression of the lung, when the exit of the air is as free as its entrance. On the contrary, dilata-

tion of the thorax takes place when the entrance of air into the pleura is easy and its escape difficult, or impossible. Little projections, having a dull sound, which precede aneurismal tumours of the large vessels, are valuable signs. The vaulted elevation, which is of little importance in recognizing hypertrophy of the heart, because it only takes place when the heart is enormous, is very useful in the diagnosis of pericarditis; of thirty-two cases of this disease, observed during four years by M. Louis, this elevation was noticed thirty-one times. M. Woillez says, it cannot be confounded with natural projections, as these never change, whilst those from pericarditis increase and diminish with the effusion.

Archives Gen. de Med. Juillet, 1836.

9. *On Chronic Laryngitis. By Dr. Roots.* This paper appears in the fourth Number of St. Thomas's Hospital Reports. A case is first narrated, and then follow the clinical remarks.

Case. J. Hurley, a coal-porter, aged 26, was admitted on the 24th Dec. affected, for two months after exposure to cold, with severe cough, with thick yellow expectoration, succeeded by sore throat and hoarseness. The tonsils were swelled, and the arches of the palate had a livid appearance. Pressure on the thyroid cartilage occasioned pain. The voice is heard in a hoarse whisper—the skin is hot and tongue coated, pulse 96. Bled to sixteen ozs.—blister to the throat—calomel purge. Antimonial wine and sulphate of magnesia every six hours.

28th. Can speak louder—has less pain on pressure—cough diminished—skin moist. 29th. Twelve leeches to the throat—one grain of calomel, and a quarter of a grain of ant. tart. every four hours. Jan. 2d. Voice decidedly better; but there is still some pain on pressing the larynx. He continued to improve, and the mercury was discontinued on the 5th. On the 15th he was considered to be well, and was discharged on the 19th of January, 1836.

Clin. Rem.—The symptoms of chronic laryngitis are commonly these:—"A hoarse, harsh cough, occasionally almost amounting to a sort of croupy or crowing sound; the voice, too, at the same time changes: it becomes hoarse, rough, and harsh, and as the disease advances, it is often merely a hoarse harsh whisper: sometimes, indeed, it is quite sibilant, accompanied by a hissing sound; and there is also a hissing sound sometimes in respiration. The respiration is difficult and hurried. The expectoration most commonly is copious; sometimes it is only mucous, but as the disease goes on, it becomes muco-purulent, sometimes almost entirely purulent, and sometimes sanguineous, either streaked with blood, or there is occasionally expectoration, with small patches of blood. The pulse is most commonly quick; and when the disease is of long standing, it is often accompanied by great emaciation, and attended also by a considerable anxiety of countenance. Sometimes the case is attended by a very distressing perspiration. There is also commonly more or less pain in deglutition, and if you put your hand on the larynx, on directing the patient to make an effort to swallow his saliva, you notice, so far as my experience goes, that it is invariably productive of pain to a greater or less extent. I never remember to have witnessed a case of chronic laryngitis, in which this symptom was not present.

"From the character of the expectoration, the emaciation, the quick pulse, and the perspiration, you will see that chronic inflammation of the larynx often simulates very closely phthisis pulmonalis. How then would you form your diagnosis? It is of the utmost importance that the diagnosis should be correct, inasmuch as the one is a case which admits of being cured, and the other, according to our present knowledge, does not. In the first place, you would judge by the degree of resonance on percussion being natural over every part of the chest, and more especially under the clavicles upon either side, the apex of the lung being the part in which,

generally, tuberculous deposition commences. In addition, then, to the resonance being natural, you would, through the medium of auscultation, form your diagnosis by the state of the respiratory murmur. If the respiratory murmur was heard naturally over the whole of the chest, then you would arrive at the conclusion that the disease was situated merely in the larynx. It is often complicated, however, with bronchitis, and then you still find a good resonance, no dulness on percussion at any particular spot; but you have, to a greater or less extent, over the large, and perhaps some of the small bronchial tubes, mucous, sonorous or sibilous rattle. This again is a condition which admits of being cured; and, therefore, you would make up your mind, under such a condition, that there was inflammation of the mucous tissue of the larynx, accompanied by inflammation of the mucous membrane of the bronchi."

These excellent remarks are followed by others of a similar character, respecting tuberculous deposits in the lungs, hepatization, excavations, &c. Chronic inflammation of the larynx produces, sometimes only a congestion of the lining membrane—sometimes thickening—hardening—roughness—tuberculation—ulceration. The ulceration may take place about the rima glottidis, or even in the epiglottis—about the chordæ vocales, ventricles—the angle in front of the thyroid cartilage. Mere softening of the mucous membrane is a degeneration which Dr. R. has seldom seen.

The treatment of this complaint must be, to a certain extent, antiphlogistic. In many instances, it will be necessary to bleed once, twice, or even oftener, from the arm, besides frequent leechings. Counter-irritation, by leeches, antimony, or what Dr. R. prefers, croton oil, will be advantageous. Dr. R. warns the student against too much reliance on counter-irritation. Leeches must be again and again applied, while there is pain on pressure of the larynx. Dr. R. prefers the croton oil to the tartar-emetic, especially in females and delicate subjects. The pustules after antimony sometimes run much farther than is intended, and sloughs form, which leave unseemly eschars on parts exposed to view, as the throat and nape of the neck.

In respect to internal medicines, he thinks the most efficacious is mercury, given in such moderate doses as to raise ptyalism in the course of a few weeks, rather than in a few days. Nauseants are of some use, in conjunction with mercury, and the best is antimony. A narcotic is generally necessary, in combination with the mercury and antimony, to allay the irritation of coughing. Opium is best, if the constipation be not troublesome—if so, hyoscyamus.

Where there is reason to suspect thickening of the mucous membrane, iodine may be employed, with the mercury. The recommendation of mercury in this disease is on the presumption, that there is no strong tendency to struma in the constitution. In our prognosis, we should always bear in mind that, sometimes, a sudden spasm of the glottis snaps the thread of life in a moment.—*Med. Chir. Review, October*, 1836.

Oil of Croton externally applied in Chronic Laryngitis. By Dr. Romberg. The following cases prove the peculiar efficacy of this species of counter-irritation in affections of the organs of voice; a fact observed by many.

Case i. A fisherman, æt. 34, lost his voice after exerting himself greatly in saving some individuals from drowning. There was no reason to suspect any disorganization of the larynx. Blisters, vapour baths, &c. were tried without effect. Frictions of croton oil were directed over the larynx, to be repeated as soon as the eruption declined. On the twenty-first day of this treatment he began to recover his voice, and regained it completely.

Case ii. A girl, æt. 18, suffered during seven weeks with hoarseness, succeeded by aphonia, the consequence of a sudden chill. Leeches, emetics, and irritating frictions produced no relief; but, after the third application of croton oil, an eruption appeared, and she immediately regained her voice.

Case iii. A woman, æt 38, complained for twelve months of a sensation of pressure in the pharynx, as if the neck were squeezed, rendering deglutition difficult: there were no other symptoms. Many remedies were tried without benefit. Three drops of Croton oil were rubbed in, and, after the third application, an eruption appeared on the neck, nucha, chest, and face, which was followed by erysipelas. The patient entirely recovered.

Dr. Romberg never found that the external application of Croton oil had a purgative effect, but he never applied it to the abdominal integuments.

Dr. Otto reports, in the same journal, the case of a woman affected with sciatica, for which frictions with Croton oil were made on the thigh, and the whole body became red and covered with vesicles. Dr. Otto never observed its purgative effect when thus applied.

Wochenschrift fur die gesammte Heilkunde. 1835.

10. *Tic Doleureux cured by the external application of Tartrate of Antimony. By Dr. Hausbrandt.* A woman, more than sixty years of age, had suffered for many years from face-ache, the severity and long continuance of which almost reduced her to despair. As soon as the pain of the face ceased, the patient felt comparatively well, when the pain came on, which was always suddenly and without any ostensible cause, the muscles of the face twitched, and the eye of the affected side was closed; the whole face became remarkably pale, and the features indicated severe suffering. As no particular circumstance capable of inducing the attack, excepting perhaps, taking cold, could be discovered, the treatment was altogether empirical. A considerable number of remedies, such as are usually employed for this complaint were tried,—especially frictions, vesicatories, narcotics, carbonate of iron,—but the paroxysms returned with greater frequency, and the patient not only lost flesh, but her condition seemed desperate. Dr. H. prescribed the following plaster which was applied over the whole of the affected side of the face.

℞. Emplast. Resinæ flavæ, ℥i.
Resinæ flavæ, ℥ss.
Terebinthinæ venetæ, ℥iij. Liquat. adm.
Tart Antimonii, ℥jss. ut fiat Emplast.

When this had remained on the face twenty-four hours, the patient experienced an itching, burning sensation throughout the spot covered by it, but the face-ache was relieved. At the end of several days the plaster was taken off, when the entire half of the face was found covered with pustules, which gave a good deal of pain, but which were very bearable in comparison to the former pains. The sores gradually healed by the application of simple dressing, and up to this time, (three and a quarter years,) there has been no recurrence of the complaint.—*Medicinische Zeitung*, 6 *Jan.* 1836.

11. *On Sulphate of Quinine introduced into the Nostrils in Iralgia. By M. Bourjot St. Hilaire.* The pain attending some diseases of the eyes is very distressing. In acute inflammatory diseases, opiate applications, such as poppy decoction, or a poultice sprinkled with laudanum, are more serviceable than belladonna or other acrid narcotics. But when, in chronic iritis there are periodical returns of pain, quinine is of great service. In the following case it was applied within the nostril.

Case. M. B., aged sixty, was operated on for cataract in June. The operation, which was by depression, was followed by acute inflammation of the globe, attended with great suffering: this, however abated, and the patient saw well in August, when on exposure to the air, he had an attack of iritis, with neuralgia of the sub-orbitary nerve. He was bled in the foot, leeches were applied in large numbers, and purgatives given, without much relief. The pain in the eye was excessive, lancinating, and returning regularly every two hours; more acute at night, preventing sleep.

The usual opiate applications were tried without relief, and as the pain was periodical, M. B., resolved to try quinine by the endermic method. Six grains were twice applied to the raw surface of a blister placed on the nucha. This produced decided and immediate relief, the patient passing the two nights following the application in almost complete tranquility; but the blistered surface became covered with a white film, and absorption being hindered, the pains returned. Reflecting on the distribution of the nasal branch of the ophthalmic nerve on the mucous membrane of the nostrils, M. B. ordered small pinches of the following powder to be snuffed up the nostrils at night.

℞ Sulph. Quininæ, gr. vj.
Pulv. Sacchar. pur. ʒj.
Pulv. R. Iridis, ʒjss. M. fiat pulvis.

This produced the desired effect, quieting the pain whenever he used it.

Gazette Medicale de Paris, 26 *Mars*, 1836, *No.* 15.

12. *A case of Chronic Dropsy of the Head, treated by Tapping. By Dr. Dugas.* At a meeting of the Medical Society of Augusta, Ga., Dr. Dugas related the following interesting case of chronic hydrocephalus, which he had treated by tapping.

This was a male child, born without accident, and enjoyed apparent good health until one month old. His head was then perceived to increase in size more more rapidly than is usual in health; and subsequently, the cranial bones separated, the eyes became spasmodically turned downward, and at four months of age the child experienced slight general spasms, which in a few days amounted to convulsions. He appeared in other respects perfectly well, was fleshy and had been subjected to no treatment whatever. The circumference of the head was now twenty-four inches, and the fluctuation could be distinctly felt at the forehead, which was puffed up by the contained fluid. In this condition he had found the patient, on the 25th of June, labouring under convulsions which had commenced several hours before. Dr. Antony happening to be present, it was at once determined in consultation, to draw off a portion of the effusion; but having no more suitable instrument at hand, Dr. D. made the puncture with a couching needle, penetrating about one inch deep, in the left angle of the fontanelle. On withdrawing the needle, an ounce and a half (ʒiss.) of limped yellowish fluid oozed out, and no more could be obtained. The head was then bandaged; the convulsions continued during the operation, and two or three hours after.

On the fifth of July, the operation was repeated with the same instrument, and the application of a cupping glass, when ʒij. more were drawn.

Aug. 12.—Head had very much enlarged, and on the use of a very small trocar, made expressly for the purpose, ʒvij. of fluid were removed.

29.—Head larger than previous to the last operation. Drew off ʒxi.

Sept. 12.—Head full, but not distended strongly. Drew off ʒxv.

30.—Head again filled. Drew off ʒxiiss.

Oct. 16.—Drew off ʒxiv.

Dr. D. remarked that the convulsions subsided shortly after the first operation, and did not return, except very slightly, a short time before the third and fifth puncture, although the accumulation continually increased. Indeed his general health appeared unimpaired until the 15th October, when he became dull and stupid. The stupor gradually increased and he became insensible of the nipple when put into his mouth. On the 16th he appeared as if in a profound sleep, and had swallowed nothing for two days.

After the removal of the ʒxiv, on that day, he again readily noticed and swallowed several teaspoonfuls of milk poured into his mouth. He expired quietly on the 18th October.

The operations were never attended with the least change of pulse, nor symptoms of prostration—the only visible effect being the subsidence of the tumefaction, and of the tendency to spasm. Iodine, calomel, bandages, &c. were prescribed, but never attended to from the unwillingness on the part of the mother to annoy the child, as she thought, unnecessarily. The fluid was, after several of the operations, exposed to heat, without coagulating in the least.

The Dr. then gave the following full and minute account of the autopsic examination.

Autopsy.—The cranium was opened longitudinally, by an incision made in the membranes connecting the two sides of the frontal and the two parietal bones. The brain was found expanded like a sac, lining the dura mater, and filled with fluid, which did not escape until the brain was punctured. The convolutions were entirely unfolded, and the walls of the *sac* thus formed were about a line or two thick. The corpora striata and thalami were not affected, and the third ventricle was nearly normal; the fornix, velum interpositum and plexus choroides existed; the septum lucidum was not found. The corpus callosum could not be recognized, although the cerebral substance forming the walls of the sac was as firm as usual at this age. Cerebellum, normal—as also the medulla oblongata and encephalic nerves. The membranes presented nothing peculiar, save a great want of blood in the vessels of the pia mater. The inner surface of the *cerebral sac* resembled very closely a healthy mucous coat of the stomach. It was in some places covered with thick flakes resembling dense mucus; some of these were yellowish, some brown, others of a cream colour and like thick pus. The yellowish patches were at the bottom of that portion of the sac corresponding to the anterior lobes of the brain, and were not very unlike the appearances left after the absorption of apoplectic effusion. The left hemisphere being the first opened, permitted the escape of the fluid contained in both, after which, on looking into the right cavity through the hole of communication with the left, a kind of longitudinal septum, though lacerated, was seen hanging from the upper part of the sac and reaching its floor. It resembled the cineritious substance, but was so pulpy as to be readily torn, and thus to prevent a satisfactory examination. It may possibly have been formed by flakes analogous to those already alluded to.

On examining that part of the sac which corresponded to the external marks left by the punctures, the cicatrices of the seven perforations were distinctly seen in the cerebral substance, which at this place with its other membranes slightly adhered to the dura mater.

The contained fluid measured sixty-four ounces, was limpid and of the colour of pale urine.

The above case, although unsuccessfully treated, may, by confirming the practicability and harmlessness of tapping the brain, lead to its more frequent trial. The plan has proved successful in one or more instances, and therefore merits more attention than it has hitherto received. In this case the brain was punctured seven times, and sixty-three ounces of fluid drawn off, yet not the slightest unpleasant effect ever followed the operation.

Southern Med. and Surg. Jour.

13. *On the use of Hydriodate of potass as a remedy for venereal and cachectic symptoms. By Mr. Judd, and Mr. Wallace.* 1. A man had connexion with a prostitute on the 17th of June, 1833.

On the 20th, he had urethritis and a pimple on the body of the penis. On the 22nd, the pimple had become a sore, which healed on the 30th, and the urethritis ceased.

On the 27th of September, we find him with ecthyma, ulceration on the lower part of the tibia, an ulcer at the back of the throat, a gleet, an ex-

coriated glans penis. Under the employment of antimony, the warm bath, &c. followed by the infusions of gentian the ecthyma declined, the ulcerations healed, and chocolate-coloured stains, with œdematous ancles, and a few fresh flat pustules were left on the 28th of October. On the 1st of November, there came out an eruption of lichen, which assumed a pustular character, and faded. The patient grew fat, but was pale and bloated, and suffered from severe nocturnal pains in his shins, when, on the 12th of December, he was ordered:

Potass, hydriod. gr. v. *ter die.*

By the 24th, he was quite free from pains, and was in good health. In February, he had, for a fortnight, effusions into the abdomen, which was removed by purgative diuretics; and by a report, date July 12, we find that there had been no relapse.

2. On the 10th of November, 1832, a man had connexion with a common woman. On the 2nd of January, a slight sore commenced on the glans penis, for which he took five grains of blue pill twice daily. How long this was continued it is difficult to say, for the case displays the ordinary obscurity of Mr. Judd. On the 9th, bubo which did not suppurate. On the 12th the sore healed. On the 11th of February, after exposure to wet and cold, a sore throat succeeded by pains, and in April, by a discharge of pus and blood from the nostrils. On the 18th of May, he presented rupia. It would appear that mercury was persevered in till the 19th, a period of upwards of four months! He suffered, with slight intermissions, from severe pains in the forehead and temple, the bloody discharge, now sanious, continuing. On the 24th of August, he was ordered to rub in, with temporary benefit. On the 18th of September, an abscess formed over the right os nasi, where a large ulcer formed. On the 4th of October there came pain and swelling of the left eyebrow, which was extremely indurated. Then followed an abscess in the lid, whence the probe passed to carious os frontis. On the 9th of November, periostitis of the left shin. From Aug. 30th to Nov. 11th, the mouth was kept sore. On the 19, the protuberant part of the lid sloughed. On the 24th a large thin shell of bone came away from the throat.

26th. "The left nostril has become ulcerated within, and excoriated without; every now and then yellow discharge concretes upon it, and the patient is excessively plagued by it. A bent probe passed in by one nostril goes through the septum and out at the other; the part, once the bridge, of his nose has sunk back upon the face so as to form a slightly curved hollow; he has a pallid leaden hue of countenance, he loses strength, and his nocturnal pains continue."

Thus he went on, his health being much impaired, his sufferings great, the nocturnal pains severe, the ancles swelling, when on the 15th of December, he was ordered *potass. hydrio.* gr. v. *ter die in aqua menth.*

To this was added a pint of new ale daily.

On the 21st, the nocturnal pains had almost ceased, and his health was better. On the 26th the swelling of the forehead and eyelid had quite subsided. The ulcers soon after healed, and, in short, recovery took place in a highly satisfactory manner.

3. "In a secondary case, that of a young gentleman (the original disease not being contracted in England,) with eruptions on the skin, pains in the shins and effusions into the synovial membrane of the knee, I easily effected a cure by this same remedy. He hunts and gets wet, and although more than a year has elapsed, he has not experienced any return of his complaint."

4. "The Hydriodate in the present month, in another instance, quickly removed an eruption and nocturnal pains; but the bubo remains to be healed. I am also trying the remedy upon a node, but have not continued its use long enough to ascertain how far it is efficacious in removing osseous dispositions."

Such are the effects, such the evidence adduced by Mr Judd. When we examine it we perceive that the cases in which the hydriodate was beneficial were of the cachectic character—cases to which mercury is notoriously, as a specific, inapplicable—cases, indeed, which are generally the result of the abuse of mercury. In the second case this was plainly the fact, and the unfortunate patient had good reason to complain of the treatment adopted in the first instance.

Let us turn to Mr. Wallace.

This gentleman has tried the effects of the hydriodate in many cases of secondary symptoms. He has formerly, it would seem, employed other preparations of iodine, but latterly he has confined himself exclusively to the hydriodate, and for rather a singular reason. Most persons would use this or that form of a medicine because it answered better than another. The chief consideration, however, with Mr. Wallace would appear to be a speculative one; at all events, he puts his hypothesis in the front of the battle.

"In the first place," he says, "I believe, that whatever preparation of iodine you use, it is only in the state of hydriodic acid, or of a hydriodate, that it enters the system. I have never been able to detect free iodine in any part of the body, or in any of the excretions. If you administer iodine in its free state to a dog, and examine the contents of his stomach, after the lapse of a very short time, you will not be able to detect an atom of iodine in the free state. You will find that it has all been converted into hydriodic acid. On one occasion Dr. O'Shaugnessy could detect no iodine in the matter discharged from the stomach of a dog to which he had given this substance fifteen minutes previously, but he found a large quantity of hydriodic acid. Are we not, from these facts, entitled to arrive at the conclusion that iodine, as I have said, enters the system only as an hydriodate or as hydriodic acid? if this be the case, it is quite useless to employ iodine in any other form, when it is our object to introduce it into the system."

We would observe that it by no means follows, because iodine is converted in the stomach into hydriodic acid, that therefore it is of no use giving iodine in any other form than that of hydriodic acid. This is as palpable a bull as ever gored paddy. If Mr. Wallace could shew that hydriodic acid was the only efficient form of the medicine, and that iodine exhibited in any other way would *not* be converted into hydriodic acid in the stomach, then his conclusion would logically follow from his premiss. As it is, we have a true Hybernian non sequitur. Put it in the form of a syllogism, and see how it looks. Hydriodic acid is the only form that gets into the system—but iodine, introduced into the stomach, immediately becomes hydriodic acid—therefore it is useless to give iodine.

The second reason which Mr. Wallace urges against any form of iodine but the hydriodate is a tangible one. He affirms first that iodine in its free state is very irritating to the stomach, the conversion into the hydriodic acid not being sufficiently rapid to prevent disturbance or even inflammation of the mucous membrane. And, secondly, he declares that the hydriodate of potass does not give rise to such injurious effects. This is the plain expression of a fact, and we have only to inquire if the fact is a true one.

We are disposed to go some way with Mr. Wallace, but not to the very end of his conclusion. We decidedly think that he overrates the mischievousness of the tincture of iodine, or of other forms of it besides the hydriodate. We have seen the tincture exhibited on a considerable scale, and we have given it freely ourselves. When the case was judiciously selected, and the medicine carefully managed we have seen no bad effects whatever from its use. Perhaps there are remedies which have been more extensively prescribed in London within these last few years, and though rash and ignorant people have no doubt abused it, still the

experience of the best physicians and surgeons of the metropolis will certainly not be found to correspond with Mr. Wallace's. It is rather remarkable that when iodine was first employed for the relief of secondary symptoms, it was this very calumniated tincture, that effected those rather surprising cures which attracted the notice of the profession. It is a common practice to "give a dog a bad name," but, scientifically speaking, we may question its propriety.

While we defend the tincture of iodine against the unmerited obloquy heaped on it, we agree with Mr. Wallace that, on the whole, the hydriodate of potass is the preferable preparation. It is milder in its effects, less variable in its operation, and while it does not stimulate the intestinal mucous membrane so much, it appears to exert less of that peculiar depressing influence, occasionally witnessed after the exhibition of the tincture. Common experience is seldom, in the long-run, false, in cases to the determination of which it is applicable. That experience has, in this country, given the general preference to the hydriodate of potass. It is probable that Mr. Wallace has too bad an opinion of the tincture of iodine, but in declaring the superiority of the hydriodate of potass, at all events in venereal affections, he echoes the prevailing sentiment.

Mr. Wallace dwells much on the presence of the hydriodate in the urine, and in some of the secretions. There is nothing in this to attract attention. It is only what occurs with hundreds of drugs as well as with articles of diet.

The effects which he has observed to follow the employment of the medicine may be briefly stated:—

1. Increase of appetite, strength, and spirits.

2. Increase of the excretions, and secretions; of the urine—the perspiration—the saliva—increased action of the bowels. None of the effects are constant, and even the reverse of any one of them may happen.

3. Occasionally the hydriodate disagrees with the stomach, occasioning dyspepsia, heartburn, and a sort of sore throat. These accidents, Mr. Wallace informs us, are controllable by quinine.

4. Some patients have complained of watchfulness, and of a feeling in the head, approaching to headache. A purgative, and intermission of the medicine, have been necessary.

5. In two patients, who were overdosed, there was sickness, soreness of throat, colicky pains, vomiting, and purging to a slight degree, frequent pulse, and exhaustion. These symptoms were relieved by laxatives.

6. Several patients have been attacked with a pleuritic pain. When bled, the blood was cupped.

7. On one occasion purpura decidedly resulted from it.

8. In a patient who took the hydriodate indiscreetly and excessively by his own direction, there occurred indigestion of the character already noticed with severe headache, and a rapid and quivering pulse. "But the most remarkable of his complaints was a peculiar state of his eyes,—such a state as I have never seen before or since. The pupils were dilated, and both his eyes were in a state of incessant motion. These motions strongly resembled those of a child who has congenital cataract. He found himself quite unable to fix them on any object. He kept his hand constantly over them, as if to shade them from the light, yet he seemed to say that the light did not hurt them." He complained of constant headache. Soon after this, he was seized with paralysis on one side of the body, preceded by muscular tremblings. He continued in a dangerous state for some weeks, when he began to amend, and has a reasonable prospect of recovery.

Such is the substance of Mr. Wallace's remarks. They appear to us to be very just, although we think he is inclined to under-estimate the ill effects and overrate the good that springs from the use of the hydriodate.

Be that as it may, it is obviously a matter of importance to understand rightly the operation and the action of any remedy, particularly of one of so powerful a character as the one before us.

Our own experience, so far as it goes, and latterly we have employed the hydriodate in many cases, agrees very nearly with that of Mr. Wallace. The experience of a hospital is frequently not borne out in private practice, the constitutions of the patients in one and the other presenting material differences. This may account for our finding the hydriodate disagree much more than Mr. Wallace seems to have done. The patients to whom we have given it have been mostly private patients—persons in the respectable classes in London. The subjects of his observations have been chiefly in and out patients of the infirmaries to which he is attached. We may well conceive that the stomach of a Patlander accustomed to regale on potatoes and whiskey, will bear stronger stuff in the way of physic, than will that of an English gentleman or tradesman. Every one accustomed to hospital and private practice in London, is aware of the difference of dose necessary in the administration of many medicines, and of the difference of effects observed in their patients in the former and the latter.

Up to a certain point, the hydriodate of potass, like the iodine itself, appears to be a stimulant, if not a tonic. Certain it is that it quickens the pulse, often increases the appetite and strength, will even occasion embonpoint, and excites more or less the whole system. It resembles in this respect arsenic, which, it is well known, will operate as a tonic in certain doses, and in certain cases.

Yet the hydriodate cannot be deemed a mere tonic. The medicines of that class exhibit, on the whole, very different effects. If we watch, for example, the operation of bark, we find that it excites the action of the heart, and of the capillaries, increases the strength, and invigorates the system. If pushed to a certain point, the bad effects that follow are just what might be supposed to result from an excess of the same sort of action. Too much blood is made, and it is circulated with too much force—sanguineous congestions or local inflammations ensue—the whole system is oppressed and overloaded—but none of that peculiar depression occurs, which marks the influence of a poisonous agent, exerted on the nervous system, or displayed through its medium.

To call arsenic a tonic, if by tonic is to be understood a remedy like bark, is clearly an abuse of terms. Arsenic, in appropriate doses, will at first quicken the action of the heart, and excite the system much in the same way that a tonic does. Acting thus, it will even cure diseases for which bark is notoriously efficacious—neuralgia, or intermittent fever. But here the analogy abruptly stops. If the arsenic is still given, or if its dose is increased, a new train of symptoms is suddenly developed. Either inflammation of the gastro-intestinal mucous membrane supervenes, or a prostration occurs, that is evidently the result of a powerful poisonous agent. We have seen arsenic given for diseases of the tongue, agree very well for a certain time, and all at once the patient has been seized with tremblings, rapid and weak pulse, and deadly exhaustion. One patient died in this condition, and on dissection, nothing decisive was found. There was a slight redness of the gastric mucous membrane, and that was all.

There appears to us to be a greater analogy between the action of iodine and arsenic, than between that of iodine and any other medicine. We say analogy, for their specific effects are materially different.

Iodine, at first, like arsenic, stimulates the system, and excites the action of the heart and of the capillaries.* If carried too far, its effects are

* When we talk of the action of the capillaries, we do not wish to advocate any hypothetical notions of their functions. We use the term for want of a better, and refer merely to the operations of the capillary system, exhalation and secretion and absorption, without troubling ourselves about their causes.

not simply, like those of quina, excess of stimulation, but, again like those of arsenic, poisonous and specific. The gastro-intestinal mucous membrane may suffer, or it may not. That is rather a local and accidental consequence. But whether it does or not, peculiar symptoms ensue—nervous agitation—rapidity and weakness of the heart's action—muscular tremblings and debility—general depression—and even death. We have seen all these effects, short of actual destruction, from the exhibition of iodine, both for cachexia and for malignant growths.

The hydriodate of potass differs from iodine in possessing more of the simply stimulating, and less of the peculiar and poisonous property. It is a difference, however, of degree and not of kind. The cases related by Mr. Wallace, and some that we could bring forward, are sufficient to show that, although it may be given with more freedom than free iodine, the same description of bad effects must be apprehended and guarded against. We need not fear them so much, but we must not forget that they *may* come.

Practically speaking, the injurious consequences of the hydriodate are rather of the immediate than remote description—they flow from its primary and stimulating qualities; not from its consecutive depressing ones. The mucous membrane of the stomach is irritated and excited, and secretes more acid, and the irritation extends to the œsophagus and pharynx. We have found uneasiness of the stomach, pyrosis, heart-burn, and that peculiar constriction and heat in the throat alluded to by Mr. Wallace, very commonly produced by a continuance in the employment of the medicine. Occasionally we see still more distinctly the effects of the stimulant property of the hydriodate. Inflammation of the pleura, headache dependent on cerebral congestion, or inflammation of the gastro-intestinal mucous membrane, may ensue. It is not at all uncommon for persons who are taking this medicine to be attacked with heat of skin, headache, full pulse, loaded tongue, in short, with decided pyrexia. Probably, if the remedy were continued under these circumstances, either some positive local inflammation would arise, or the poisonous effects of the hydriodate would be developed.

We think, then, there can be little doubt that the sensible effects of the hydriodate of potass are in the first instance of a stimulating and a tonic character. We say sensible effects, for there may be, and there probably are others, of a more refined and subtle description, which not being shown by any tangible alterations of the functions, are not so readily appreciated.

Were we to believe some authors, the hydriodate is a medicine of great value in all secondary venereal symptoms. This does not agree with what we have seen, nor is it likely a priori to be true. Few things can be more opposed in all essential features, than a secondary papular or tubercular eruption, and the cachectic rupia or ecthyma. The affection, in the first instance, may be the direct and simple consequence of the syphilitic virus, the constitution of the patient is good, the symptoms are of a sthenic character, and mercury, if properly exhibited, effects a cure. In rupia or ecthyma all bespeaks cachexia. The vesicles or pustules form scabs, foul ulcers, or become phagedænic or sloughing sores—the periosteum or the bones may be affected—the patient is emaciated—debility is evident—and, mercury, the abuse of which has usually caused the symptoms, almost always aggravates them. It is not likely, we say, a priori, that any one remedy should suit equally such opposite states. It is not consistent with our common experience of medicines or of maladies, nor does it agree with what we have observed of the effects of the hydriodate itself.

The venereal cases in which we have seen most benefit from the hydriodate, have been chiefly those of a cachectic character—cases in which repeated courses of mercury have been given, and in which the patient either does not require or will not bear that remedy. There are usually pustular or vesicular eruptions, producing scabs and unhealthy, sloughing, or creep-

ing ulcers—ulceration of the throat of a character similar to that upon the skin—nodes, caries of the bones—chronic inflammation of the testis and the cord. Such is the kind of case in which the hydriodate appears, upon the whole, to do most good. It is frequently surprising to see how rapidly, and even permanently, the patient will recover. He may have gone on for months, or even for years, with only temporary and delusive periods of amendment, when a course of the hydriodate may set him at once and effectually upon his legs.

We lately attended a gentleman with Mr. Davis, an intelligent surgeon of Hertford. The patient had been ill for two or three years. When we saw him, there was considerable tumefaction of the alæ nasi, with redness of the integument, and discharge from the nostrils. There were several cachectic ulcerations on the skin—ulceration of the soft palate and pharynx —emaciation—and general ill health. We prescribed sarsaparilla and some other remedies, and the patient mended a little. But portions of diseased bone came away from the nose, and a piece, apparently of the horizontal process of the palate bone, was discharged through an ulcerated aperture in the front of the velum. We now put the patient on the hydriodate. The result was most gratifying. All the symptoms very speedily subsided, and the gentleman has been left with a small, round, circular aperture in the palate, productive of too little inconvenience to require the application of the suture.

We must own, that although occasionally the hydriodate has effected both rapid and permanent benefit, it has not in the majority of instances done so. It is the character of the cachectic disease we have mentioned, to return again and again, and to exhibit repeated vicissitudes of improvement and relapse. It is indeed a singular complaint, and one well calculated to illustrate the doctrines of the humoral pathology. A patient is attacked with an eruption of rupia or ecthyma, and the vesicles or pustules ulcerate or slough—at the same time, perhaps, ulceration of the throat appears or spreads, or sloughing invades the mucous membrane of the fauces or the nares. After a time these symptoms become mitigated—the sloughing is arrested—the ulcerations may heal—and the patient may even seem to be restored to health. But the recovery is deceptive. Suddenly, he is again seized with the whole or with a part of his former symptoms, which again exhibit the same successive phases of aggravation, arrest, and amendment or apparent cure. This scene may be, and generally is repeated many times, and the event depends on the treatment employed, and on the constitution of the patient. If both are bad, the attacks grow more and more serious, or rather they leave him less and less able to sustain them. The bones may or may not become affected, but, whatever may be the character of the specific symptoms, it is not from them, per se, that death usually results. Accidental circumstances lead to disease of some vital organ, and, in the majority of instances, either phthisis, or fever ending in ulcerations of the mucous membrane of the bowels, terminates the case.

It could hardly be expected that any remedy would at once cut short a malady of such a character. It is clearly a constitutional disease, and like scrofula, depends on too general an alteration of the system to be at once put out. Such anticipations are supported by experience, and it is seldom indeed that a case of any severity is quickly cured. Of course, there are differences of degree in this, as in all other complaints, but we repeat that we must not anticipate an off-hand *and* permanent recovery from any system of management, undoubtedly not from any single drug.—

In many of these cases the hydriodate agrees remarkably well. Given at the proper time, seems to arrest the phagedænic action, promote the cicatrization of the sores, and re-establish the health of the patient in a very remarkable degree. But many other remedies do the same thing. Sarsaparilla—the mineral acids—tonics—sometimes small doses of mercury,

produce in these cases more or less of the same effects as the hydriodate. In short, it is preposterous to term this medicine a specific for this complaint, for though sometimes it answers better than any of the others we have mentioned, it not unfrequently does not answer so well. It is an addition, and a valuable addition to our means of treatment—it gives us one other medicine to ring the changes with, and that is the most that can fairly be said of it. We may mention a case which is sufficiently illustrative of these remarks:

Case. A respectable tradesman, after a long and injudicious course of mercury for a venereal sore, was attacked with extensive ulceration of the fauces, and with a phagedænic ulceration on the left arm, which succeeded a vesicle that scabbed. A variety of means were tried. Sometimes he was better, sometimes he became worse. He was put on the hydriodate in full doses, with almost instantaneous benefit. The ulcer of the throat almost healed. Again it broke out, and again the hydriodate effected the greatest benefit. But still these relapses occurred, and now, at the end of two years and a half from the first appearance of the ulceration in the throat, the patient is in a very precarious condition. The fauces are covered with a slouthy ulceration. A portion of the lateral and nearly all the vertical cartilage of the nose have been destroyed—and gastro enteritis following the *cautious* employment of the hydriodate nearly proved fatal about a month ago. In each attack the medicine has appeared to be of signal service, yet two years and a half have passed, and the individual is not materially benefitted, but rather the reverse.

We could mention many cases of this description, and we can assure our readers that there is not a greater error than to suppose that because the hydriodate is of temporary, it is always of permanent service. It is a remedy which should be employed with judgment, caution, and that distrust which *must* spring from an acquaintance with the peculiar characters of the disease.

Not unfrequently, it is either of no service at all, or it positively disagrees.

We have at present under our care a gentleman, whose case has been in some respects a singular one. Having had, to his knowledge, neither sore nor urethral discharge, he was attacked with yellow ulceration of the throat, and what looked precisely like the venereal tubercle. He consulted a surgeon, who felt unwilling to order mercury, and prescribed the tincture of iodine. The ulceration quickly healed, and the eruption appeared to decline. But soon both re-appeared. We saw him about nine months after the commencement of the ulceration of the throat. Both tonsils were then the seat of sloughy ulcers, and there were several spots of rupia on the skin. He had also secondary ulcerations at the verge of the anus, which were exquisitely painful. We ordered a course of calomel and opium, under which the ulcerations of the rectum and of the throat healed, and have never since returned. But the rupia spots ulcerated, and at intervals fresh sloughy ulcerations have appeared on different parts of the body, accompanied latterly with nodes. We have repeatedly tried the hydriodate in this case. After a few days, it occasions heart-burn, pain at the epigastrium, pyrexia, and a more sloughy state of the sores. To these it has never been of service, and the patient has been always made ill by it.

In cachectic cases of a more obscure character, and totally unconnected with syphilis or with the abuse of mercury, the hydriodate occasionally does wonders.

Case. A gentleman was seized with what appeared to be pleurisy. He was bled to a great, indeed to an improper extent. He had previously been a free liver, and the depletion reduced him in such a manner, that he never properly rallied. Under these circumstances he was attacked with violent pains in the bones, he was sallow, emaciated, and had all the ap-

pearance of a man broken down with the venereal cachexia. He was under the care of the most eminent physicians at Cheltenham, but got no better, or not materially so. He came to London, and consulted an eminent surgeon, who prescribed the hydriodate. The pains in a week or two disappeared, and he rapidly recovered. Whether the cure will be permanent, it is of course impossible to say.

The hydriodate has been applied to the treatment of other venereal affections, besides the cachexiæ we have spoken of. In the present article, we confine ourselves to what we have personally witnessed, and shall, therefore, state only the results of our own observation.

1. We have not tried it in cases of primary syphilis, nor do we *imagine*, from what we know of its operation, that it will be of service. Perhaps in some cases of primary phagedenic ulceration, it may be useful.

2. Nor from what we have witnessed, should we conceive that it is applicable to the pure syphilitic eruptions—the scaly, or the tubercular.—These eruptions are so much under the control of mercury, and its action is so different from that of the hydriodate, that it seems both unnecessary and unreasonable to employ, or to anticipate much from the employment of the latter.

3. It has been lauded in cases of papular eruption. But we should pause before we attach much importance to its use in *them*. Lichen is so fugitive in its character, that it is difficult to determine the effects of remedies upon it—at all events there is an obvious source of fallacy.

4. We have tried the hydriodate in some of the more vague secondary venereal symptoms.

a. In a case of enlarged tonsils, covered with white superficial ulceration, and connected with vaginal discharge and condyloma, it was of no benefit.

b. A gentleman had sores, which were said in Paris to be excoriations, and were treated in England as syphilitic. He seems to have taken a good deal of mercury. His health had been impaired by previous dysentery contracted in Syria, while travelling for amusement. Two years afterwards we saw him. He was liable to frequent irruptions of small superficial sores on the lips and tongue, and had psoriasis palmaria. We have tried the hydriodate three times in this gentleman. Each time it occasioned dyspepsia, and did no good to the complaint. In another similar case, we used the medicine with the same want of success. In a third case it was of use, but the disorder was getting well, when we ordered the hydriodate to be taken.

Such are the results of our own experience. We have employed the hydriodate in other cases, but the results were not sufficiently distinct to induce us to allude to them. On the whole, we are disposed to coincide with those who have found the hydriodate answer best in cachectic cases. But we think that, even in these, it is uncertain, and that it has been overrated. It is another string, and not a bad one, to a bow that has several already, but requires more.

The most usual mode of exhibiting the hydriodate, is in the state of solution in camphor mixture. It is nauseous in that form. Perhaps the pleasantest formula is the succeeding, or one like it.

℞	Aquæ Florum Aurantii . .	℥iij.
	Aquæ Distill.	℥j.
	Syrupi Aurantii	℥j.
	Potass. Hydriodatis . . .	gr. v. ad x.

M. ft Haustus ter die bibendus.

We have found that, in cachectic cases, it is usually better to conjoin the hydriodate with small quantities of sarsaparilla. Either the fluid vehicle of the hydriodate may be sweetened with a drachm or two of the syrup of sarsaparilla, or the latter, in the most appropriate form, may be taken a little after the dose of the hydriodate.

In private practice, patients will seldom bear more than ten or twelve grains of the hydriodate thrice daily. It is better to begin with small doses, and gradually increase them. We may commence with five grains twice in the day, and augment the proportion to the requisite amount.

Medico-Chirurgical Review, Jan. 1837, *page* 189.

PATHOLOGY.

14. *A curious case of enlargement of the lymphatics, of the inguinal glands, mistaken for double herniæ.* My friend, M. Amussat, of Paris, was called to a young man, (æt. 26,) who the day before had been seized with severe pain in the abdomen, followed by frequent vomiting. These symptoms, and the presence of two swellings, one in each groin, nearly as large as an orange, left no doubt that the patient was labouring under the effects of strangulated hernia; but the state of prostration was such, that reduction by an operation was not attempted. On examining the patient after death, the only remarkable circumstance observed was enormous dilatation of the lymphatics from both groins upwards, including the thoracic duct. The two swellings situated in the groins, and which, at an early age of the patient, had been treated as a case of *double herniæ*, (for we afterwards learned that he had worn a double truss from his boyhood,) were found to be produced by great dilatation of the lymphatics of the inguinal glands. When cut into, instead of having a compact structure, they presented the appearance of a coarse sponge, from the size of all these vessels being increased; the most of them presenting from one to three lines in diameter. All the lymphatics of the pelvic and lumbar regions presented the same alteration in a still more remarkable degree. None of them were less than two, many of them from three to four lines; and the thoracic duct was from six to eight lines in diameter. As no obstacle was found in the course or at the termination of the thoracic duct, to account for the dilatation of the lymphatics in this singular case, and as these vessels had undergone no other perceptible change, I am disposed to consider it as an example of malformation of these vessels, more especially when these facts are connected with the circumstances furnished by the history of the case,—viz. the existence, at an early period of life, of the large state of the inguinal glands.—*British and Foreign Med. Review*, No. iv. p. 459.

15. *On the softening of the mucous membrane of the Intestinal Canal in Children. By Dr. Droste, of Osnaburg.* Dr. Droste coincides in opinion with Andral and others that *ramollissement*, or softening, is an idiopathic disease which may primarily affect all the tissues of the body. The mucous membrane of the intestinal canal of children is peculiarly liable to undergo this process at the commencement of the periods of weaning and teething. Romberg, out of fifty cases of this affection, found that

6	occurred	from the	1st	to the	3d	month	(inclusive.)
17	"	"	4th	"	6th	"	"
7	"	"	7th	"	11th	"	"
14	"	"	1st year	to the	2d year.		
6	"	"	2d	"	"	5th	"

According to Dr. D., the first symptoms of the disease are frequent stools of a greenish, watery, mucous matter, mixed with yellow flakes, and of an acid nature. It is further accompanied by vomiting of acid matter, cough, impeded respiration, anxiety, perpetual restlessness, frequent crying out and moaning, coldness of the face and extremities, emaciation and debility, and, at last, by convulsions and comatose symptoms. Fever may be present at the commencement, but never lasts till the termination of the

disease. The epigrastric region is sometimes a little inflated, but never tense; it may be pressed without pain, and the skin is pale and relaxed.

The softening process, of which the above are the symptoms, may be divided into three stages. In the first, the mucous membrane preserves its texture, but loses its normal consistence. This may be the case with the whole of the membrane, or only with patches of it. In the second stage, it is converted into a thin, soft, gelatinous, nearly transparent, matter, which can be wiped away with a sponge, or dissolved by water poured upon it. In this stage, continuity is maintained by the subjacent membranes, though it will always be remarked that these, too, are softer than in a healthy subject. In the third stage, no trace of organization is left in any of the membranes; the intestines are perforated in different places to a greater or less extent, and the internal surface, which is sometimes a dark red colour, presents here and there traces of extravasated blood.

Most of the modern German pathologists are of opinion, that the cause of this disease is an affection of the nerves which supply the coats of the intestinal canal. This position is principally founded on the celebrated experiments of Camerer,* in which, after cutting on both sides, the sympathetic and par vagum of a rabbit, he found the coats of the intestinal canal softened in precisely the same way as in the diseased human subject. Basing his views on this fact, Camerer concludes, that the cause of the disease under consideration is an inflammation of the above-mentioned nerves, terminating in paralysis. But Droste and the later writers, whilst they allow that the nerves are primarily affected, deny that they are inflamed. They content themselves with asserting that they are in an anormal condition, which may be either of excitement or depression. They ask—and in vain—for the anatomical signs of inflammation. Moreover the remedy for this disease, the efficacy of which they describe as remarkable, and as acknowledged throughout Germany, proves alone that the nature of the latter cannot be inflammatory. This remedy is the *muriate of iron.* Pommer relates two cases of its decided success. One of his patients was a child of six months old, to whom he gave two scruples of muriate of iron within a week, in a decoction of marshmallow. The other, a child of four weeks old took twenty-four grains in eight days. Both were allowed scarcely any nourishment, except a few tablespoonfuls of warm milk or gruel. Hergt gives, in these cases, musk in conjunction with iron. The day after the first exhibition of these remedies, sickness and diarrhœa had both disappeared. He prescribes also liniments for the epigastric region, and warm aromatic fomentations for the whole abdomen.—*Zeitschrift fur die gesammte Medicin, &c. Hamburg.* 1 Band, Heft 4. 1836.

16. *On the Mechanism of Bruit de Soufflet, or Bellows-Sound. By D. J. Corrigan, M. D.* In February, 1829, Dr. Corrigan published in the Lancet an explanation of the manner in which this important sign is produced; and he now follows up the theory he advanced, and supplies its deficiencies. His account of the explanations which have been given, and his reasons for dissenting from them, we must pass over, and confine ourselves to his own theory, which is this:—In a natural condition, all the arteries are kept tensely distended by blood, and at each contraction of the heart the additional quantity of blood sent forward impels before it, "en masse," the blood already contained in the vessels; but, whenever the "bruit de soufflet," or its varieties, "bruit de rape, de lime," &c. are heard, this equable flow of blood and tense state of the vessels is interfered with, and

* See "Versuche uber die Natur der krankhaften Magenerweichung, von Camerer. Stuttgart, 1828.

a current-like or rippling motion of the blood is produced, which tends to excite vibrations in the vessels or arteries through which it passes; and, as the vessels are less tense, they are thrown more easily into vibrations by the irregular currents. Thus, a rippling motion of the blood, and a flaccid state of the vessels, are the mechanical conditions essential to the production of the sound. The circumstances under which the sound is heard, are very various, and apparently contradictory: thus, it is heard in narrowing and in permanent patency of the cardiac orifices; in varicose aneurism; in the uterine vessels during pregnancy; in the heart and vessels after excessive loss of blood; momentarily in hysteria, &c., when the heart is sound; and it can be produced at will in any large artery, as the carotid or femoral, by pressing upon it to a certain degree with the finger or edge of the stethoscope. Dr. Corrigan endeavours to show that, in all these cases there is a rippling motion of the blood and a flaccid state of the vessels, and therefore that his theory explains them all. Thus, when the femoral artery is pressed with the finger, it becomes comparatively flaccid beyond the narrowed portion, as the supply of blood is partially cut off, and therefore is insufficient to keep the artery tensely filled; and at the same time the pressure produces a rippling motion of the blood, by causing its particles to move with different degrees of velocity; those in the centre being impelled with the greatest rapidity, whilst those towards the sides are moved with varying velocities; currents are produced which impinge upon the flaccid sides of the artery, and cause corresponding vibrations. In aneurism of the thoracic aorta, with diseased aortic valves, the condition of the parts is well calculated to produce the sound; for the aneurismal sac is not kept distended, but becomes flaccid, from the imperfect aortic valves allowing a certain quantity of the blood expelled from the ventricle to pass back again. In tense aneurism there is pulsation, but no bruit de soufflet. Contraction of the auriculo-ventricular opening of the heart is that lesion with which this sound is most frequently connected; for the blood rushes through the narrow orifice produced by the contracted state of the loose edge of the mitral valve into the relaxed and flaccid ventricle, and both mechanical conditions being present, the sound is produced. In permanent patency of the mouths of the aorta, part of the blood, after each contraction, returns into the ventricle, and the aorta and its large branches become in some degree flaccid. In pregnancy, the bruit de soufflet is heard where the placenta is attached. The arteries of the placentar portion of the uterus are much enlarged, compared with the trunk that supplies them; and thus, in the intervals between the contractions of the heart, become somewhat flaccid, and in this condition receive the next dash of blood from the supply trunks: both conditions essential to the bruit de soufflet are therefore present. In varicose aneurism, a jet of blood passes into the vein at each pulsation, throwing the blood of the vein into irregular currents. After excessive loss of blood, the arteries are not completely filled with blood; it does not, consequently, move in its natural equable course, and this sound is produced. In hysteric and nervous persons, this sound is often heard for a short time, and is caused by irregular action of the heart and arteries producing an alteration in the motion of the blood, and a deviation from the natural tension of the arteries.

Dr. Corrigan illustrates his theory by several experiments. He fixed an elastic tube into an elevated vessel of water: whilst the water flowed through the pipe and equally distended it, no sound was produced; but, on pressing the tube with the finger, so as to diminish the supply of water beyond the point of pressure, the sides of the tube became flaccid, the fluid within was thrown into irregular currents, and a loud bruit de soufflet was produced. Bouillaud, in alluding to this experiment, attributed the sound to increased pressure on the fluid; but, to obviate this objection, the experiment was varied by attaching a smaller tube, of half the area, to

the end of the first flexible tube: in the short time that the flexible tube was filling with water, its sides were flaccid, and the bruit de soufflet was heard; but, as soon as it was once filled, the water flowed through without any noise. The same effect was produced when a ligature was tied round the flexible tube, to diminish its caliber one-third. In both cases the sound was heard, and ceased to be heard, in exact accordance with the law laid down. Other experiments are given, but we must refer our readers to the excellent paper itself.—*The Dublin Journal, November*, 1836.

17. *On the Effects of repeated loss of Blood on the Constitution of the Blood. By Dr. Hermann Nasse.* We have not yet had an opportunity of seeing the original work of Dr. Nasse on the physiology and pathology of the blood, which he has just published, and in which he has consigned the result of observations and experiments carried on by him for no less a period than ten years. The following are some of the principal results ascertained respecting the influence of loss of blood on the state of the fluid, as recorded by Dr. Albers in the Hanoverian Annals.

1. The blood flows from the vein with less force and in a smaller stream.
2. Its temperature is diminished.
3. The blood cools more rapidly in the first minutes.
4. Its colour is brighter.
5. Its specific gravity is diminished.
6. The coagulation takes place sooner.
7. The serum separates frequently more speedily from the clot.
8. The disposition to form the fibrinous coat is increased.
9. The quantity of water is increased.
10. The coagulum is less firm.
11. The specific gravity of the serum is diminished.
12. The powder-like sediment is augmented.
13. The height of the remaining cruor in "whipped" blood is lessened.
14. The blood putrefies more speedily.
15. The fibrinous substance frequently increases, but becomes tenderer, and is more readily decomposed.
16. The quantity of globules is diminished.
17. The quantity of iron is diminished.
18. The albuminous portion of the blood increases somewhat.
19. The quantity of fat in the serum and in the fibrine is increased.

Hannoversche Annalen fur die gesammte Heilkunde. B. 1, Heft. 3, 1836.

SURGERY.

18. *Internal Fistula cured by the actual Cautery.* Dr. Fingerhuth, has in two instances succeeded in curing internal fistula by cauterizing the fistulous surface with hot iron. Different escarotics were employed to destroy the membranes lining the fistula, and to excite healthy granulations, with but little permanent advantage. Dr. F. finally resorted to cauterization, by introducing an iron into the fistula, of a temperature scarcely elevated to that of red heat. "Luxuriant granulations soon covered the cauterized parts; the fistula diminished, and the surfaces being again destroyed by a heated iron corresponding in size to the apertures which remained, they were eventually cured.

Wochenschrift fur die gesammte Heilkunde, No. 6. 1836.

19. *Muriate of Barytes in the treatment of White Swellings.* M. Lisfranc has recently published the result of his experience with this remedy in white swellings, from which he draws the following general conclusions. 1. White swelling has sometimes been cured, and generally decidedly amended, by the use of the muriate of Barytes. 2. It has been found most beneficial in scrofulous subjects. 3. In a few cases a cure was effected by this remedy alone. 4. In those cases in which the disease became stationary, it was found necessary to resort to another mode of treatment. 5. It may be used both in the acute and chronic states of the disease. 6. No injurious effects have ever resulted from its use. 7. It usually lessens the frequency of the pulse, having in some instances reduced it from eighty or sixty, to fifty or forty, and even to twenty-five pulsations in a minute. 8. The medicine has usually been most beneficial in those cases in which it produced slight disturbance and pain in the stomach. 9. Local bleeding, and compression, has often been used conjointly with this remedy, and generally with much benefit.

Six grains of the muriate of barytes are to be dissolved in four ounces of water, of which a table spoon full is to be taken every hour, except one hour before, and two hours after each meal. The patient must abstain from wine and meat, restricting himself entirely to water and vegetable food. If nausea, vomiting, or any other disturbance should come on, the use of the medicine should be suspended, and cautiously resumed, after the injurious effects have subsided. Climate appears to have some influence on the ability of the human body to bear the effects of this remedy; for at Marseilles two drachms have been given without any particular inconvenience, whilst at Paris, M. Lisfranc has never been able to increase the dose beyond forty-eight grains, and frequently he was not permitted to carry it to this extent. The unpleasant symptoms which an overdose of this article produces may generally be speedily subdued by the white of eggs.

M. Lisfranc speaks in the most favourable terms of this remedy in white swelling. He declares that this remedy deserves to be regarded as a truly valuable acquisition in surgery.

Gazette Medicale de Paris, No. 14. 2 *Avril*, 1836.

20. *On Extracting foreign bodies from the Ear.* Dr. Hill has found the small hooked instrument which is to be found in cases of eye instruments, useful in removing foreign bodies from the ear. This hook is so slender and light, having the point well turned up, that it can be used with all the delicacy of a probe, and can easily be carried along the parietes of the meatus, so as to get behind any object. Some of these cases are so troublesome, that any hint on the subject is worth attending to.

Edinburgh Journal, October, 1836.

21. *On the Treatment of the Vascular Nævi by Injection. By E. A. Lloyd, Esq.* Impressed with the danger of attempting to cure large nævi by excision, or by caustic, or by the ligature, Mr. Lloyd was led, several years ago, to inject them with a stimulating liquor; and his success has answered his expectations. He uses a syringe with several sets of tubes adapted to the size of the nævus, and he introduces the point of the tube through an aperture in the skin at some little distance from the disease, as there is then greater facility in compressing the nævus so as to prevent hemorrhage. Before injecting it, the nævus should be emptied of blood by pressure, and the pressure kept up till the instant of injection. The fluid should be retained in the nævus from five to ten minutes, by making pressure along the track which had been occupied by the tube of the syringe. Very large nævi require to be injected at several places, but it is better to make one attempt on the first occasion. When very hard,

they may require puncturing in various directions, but this should be done from a single point. It is better to make pressure round the nævus, to prevent extravasation of the injection in the cellular tissue; and this can easily be done with the cover of a pill box, a notch being cut in it for the admission of the point of the syringe. Mr. Lloyd has used different fluids; such as one part of strong nitric acid to ten or fifteen parts of the spirit of nitric ether; or the spiritus of ammoniæ aromaticus, when others have failed; or solutions of chloride of lime, sulphate and acetate of zinc, of muriate of ammonia, of hydriodate of potash, &c. Mr. Stanley has used wine with success. The chief advantages of this plan are, that it is applicable to nævi so large as to be wholly irremediable by other means, that it occasions no deformity, and produces very little pain or constitutional disturbance.

It is important to remember that the nævus in the first instance is generally very small, and that it should be at once attended to. At an early stage the nitric acid or potassa fusa are the best applications; and Mr. Lloyd is in the habit of applying a thick coating of sealing-wax varnish around the nævus to confine the action of the caustic to the disease itself. *Medical Gazette, October* 1, 1836.

22. *Cure of Ganglions of long standing, by puncture and compression.*—M. Chailly has communicated to the Medical Society of Paris two cases in which he has succeeded in curing very troublesome ganglions, by puncture and compression. This operation it is true, has been already repeatedly tried without success; but Mr. C. thinks that this want of success is owing to the selection of an improper place for the puncture. Hitherto they have been punctured at their summit, and as pressure was necessary to effect the adhesion of their parietes, the opening was necessarily closed and the fluid formed anew could not flow off. This inconvenience M. C. has avoided, he says, by making the incision at the side of the tumour; the compression then favours the flow of the fluid, and the adhesion of the parietes of the cyst is speedily effected.

Journal de Med. et de Chirurg. Pratiques, Avril, 1836.

MIDWIFERY.

23. *Successful Case of Cæsarian Section. By Dr. Meyer of Minden.* This is the fourth time Dr. Meyer has performed this operation, and three of his cases have terminated favourably. The subject of the following was the wife of a shoemaker, named Holle, residing at Minden, a woman of small size and slender make, aged thirty-eight, who had previously enjoyed good health, and borne three children easily and without any bad consequences. After this she was attacked with an arthritic affection, which, from poverty, privations, grief, and want of timely assistance, had increased to such a degree, that for the space of a year, she only left her bed occasionally, and was then merely able to crawl about her room, bent double and holding by the chairs.

In this state she became again pregnant; an occurrence, of which the first intimation was given by the motions of the fœtus in utero. On the evening of the 19th of June, labour came on, and towards morning the midwife in attendance, having discovered an abnormal state of the pelvis, advised her to have the assistance of an accoucheur. A neighbouring physician, Dr. Heilbronn, was called in, who, finding the pelvis so deformed as to render artificial delivery by dismemberment or the Cæsarean section unavoidable, ordered the patient to be blooded, and requested Dr. Meyer to take charge of the case.

An examination per vaginam showed that the pelvis was excessively deformed. On introducing the finger, which was done with difficulty, owing to a bending inwards of the ossa ilii and pubis, the summit of a round solid body was felt, which at first might be taken for the head of the child, but a more accurate examination proved it to be the distorted promontory of the sacrum, which projected close to the retreating symphisis pubis. Hence it was immediately concluded that the child lay entirely in the false pelvis; a circumstance which also explained the extreme prominence of the belly, which rested with the navel touching the external parts of generation.

Besides that the child was still living, the impossibility of getting at it through the vagina determined Dr. Meyer to abandon at once the idea of dismemberment, and he decided on this plan of operation, which the mother also pressed for; although from her unfavourable condition, there was little hope of saving her. The further proceedings are thus described by Dr. Meyer:

"The patient was carried to the table, and placed on a straw mattress. The thighs could be separated only so far as merely to afford room for the hand of an examiner; the lumbar vertebræ appeared to be anchylosed with each other and with the sacrum, and it was impossible to place her in an horizontal posture. In this half-sitting posture, the abdomen presented a space of only about four inches from the umbilicus to the pubes. Notwithstanding this, and the presumption that the placenta lay in the line of the proposed incision, I made choice of it, for reasons which seemed to me conclusive.

"Two assistants stood, one on each side of the patient, with large soft sponges, warmed and slightly oiled; while Dr. Heilbronn stood at her feet, ready to hand the instruments and take hold of the child. The abdomen was then firmly and powerfully drawn up, and an incision, about four inches in length, was made through the integuments, commencing as close as possible to the umbilicus, and terminating at the pubes. The division of the linea alba and the peritoneum, to the same extent and in the same direction, gave exit to a considerable quantity of water, showing the coexistence of ascites. The discharge of this fluid, however, diminished the enormous tension of the abdomen, and contributed to facilitate the delivery. In all my former cases I had found the uterus extremely thin, scarcely thicker than stout paper, and easily divided: in the present instance, however, the walls were unusually firm and three lines in thickness. A new obstacle here arose: in cutting through the uterus, the knife entered the placenta, which was attached exactly opposite the line of incision. The consequences were, a division of the larger vessels which are collected about the centre of the placenta, giving rise to a considerable hemorrhage and a further interference with the previously limited space for the introduction of the hand and the passage of the child. No time, however, was to be lost: the section of the anterior wall of the uterus was speedily completed, the necessary detachment of the placenta was accomplished without any excessive hemorrhage, and the right knee of the child presented. As the opening in the womb was scarcely large enough for the passage of the head, it was necessary to extract the arms; after which the head followed, not without some resistance, yet without any laceration of the uterus. The extraction of the child was followed instantly by a remarkable contraction of the womb, and the bleeding stopped.

"Vomiting came on, accompanied by spasmodic contractions of the abdominal muscles, so that the assistants were obliged to direct their whole attention to the intestines, which were protruded with great force, and which were returned and kept in with much difficulty by the oiled sponges. When the blood and aqueous fluid were removed from the cavity of the abdomen, the uterus was seen contracted to about the size of two fists;

and, as the somewhat swollen edges of the incision were tolerably approximated, the external wound was united by the bloody suture without further delay. After it was finished, a repetition of the vomiting forced a piece of omentum, about two inches long, through an interval between the sutures, two inches below the umbilicus: this was removed with the scissors without any hesitation. Immediately over the pubes an opening was left, about an inch in length, into which a tent of lint was inserted; compresses were placed at each side of the wound, a twelve-tailed bandage applied, and, in half an hour from the commencement of the operation, the patient, who during the whole time neither stirred nor uttered a single moan, was laid comfortably in bed, the vomiting had ceased, and the cough was less troublesome. The child, a male, come to its full time, and twenty inches in length, but imperfectly nourished, had breathed immediately after delivery, cried, and was doing well. About half an hour afterwards, during a violent paroxysm of coughing, a full half-ell of intestine was forced through the opening at the lower end of the wound, and lay between the thighs distended with flatus. Dr. Meyer, unwilling to undo the bandage in the absence of proper assistants, fortunately succeeded in reducing it by the taxis, and secured the opening with a compress and strips of adhesive plaster."

The patient ultimately got quite well.

From the successful termination of this and two other cases, Dr. Meyer is led to the conclusion that the Cæsarian section is much less dangerous than is generally supposed; that, when we have recourse to it in time and under favourable circumstances, it is oftener followed by a happy result than other violent modes of artificial delivery, adopted in case of great contraction and abnormal formation of the pelvis; and that, generally speaking, when there is a great probability of saving the mother, it should be preferred to dismembering the living child. Leaving the question undecided, whether the latter incision should be selected because the section of the anterior wall of the uterus is likely to meet the placenta, his experience inclines him in all cases to make choice of the linea alba. Finally, he corrects a statement made by him in a paper inserted in Siebold's Journal, 3d band. 1st heft, that, "in such operations, only one intelligent assistant is necessary;" and declares it to be his conviction that three intelligent assistants are requisite,—two to prevent the protrusion of the intestines, and a third to remove the placenta and fœtus.

Neue Zeitschrift fur Geburtskunde. Band. iii. Heft. 1. 1835.

24. *Proportion of labours requiring instrumental assistance.* Dr. Collins, who for several years was chief physician to the Dublin Lying-in Hospital, states that during that period, 16,414 women were delivered in that institution. Out of this large number of deliveries, instrumental assistance was required in twenty-seven instances only—the forceps twenty-four times, and the lever thrice. This gives us the average of about one in six hundred and eight deliveries. The proportions given from the result of Dr. Joseph Clarke's experience are 14 in 10,199.

The above estimate refers to the use of instruments with the intention of terminating a labour, when the uterus and its associate muscles are unable to accomplish the purpose; and always in the hope of preserving the life of the child, without detriment to the mother. They represent the ordinary course of things, provided, what is happily the case in general, that the pelvis be well formed, and the uterus have no anomalous rigidity. But where there is a deformed or a too narrow pelvis, causing irremoveable impaction of the head of the child, or preventing its entrance into the pelvic strait, then another kind of instrument is used, and the case becomes a surgical one, in which it is necessary to remove the child, by first diminishing its bulk, as we would any foreign body, which by its location and

pressure endangers life. This is done by the crotchet. The use of the stethoscope enables the accoucheur to ascertain that respecting which he feels so much solicitude—viz: whether the child be still living, or is dead. If the latter, he has no hesitation in proceeding at once to its extraction. The proportion of cases of this description are much greater in Europe than in this country, and more in hospital than in private practice; for in Dublin many of the worst cases are brought to the hospital pending the labour, and after a discovery out of doors of their dangerous or desperate character. The result of Dr. Collins's observations shows that out of 16,654 births, the perforator had been used, and the child destroyed in 118 of this number, or 1 in 141. Dr. Clarke's proportion, also deduced from hospital returns, was 1 in 208.

The following table shows the practice of different accoucheurs in reference to the use of instruments:—

Physicians.	Total number of births.	Forceps or vectis used in.	Crotchet used in.	Relative frequency of instrumental deliveries.
Dr. Carus of Dresden - -	2549	184	9	1 in 13
Dr. Kluge of Berlin - - -	1111	68	6	1 in 15
Dr. Nægele of Heidelberg	1711	55	5	1 in 28
Dr. Boer of Vienna - - -	9589	35	13	1 in 199
Mad. Boivin of Paris - -	20517	96	16	1 in 183
Dr. Merriman - - - - - -	2947	21	9	1 in 98
Dr. Joseph Clarke - - - -	10199	14	49	1 in 162
Dr. Collins - - - - - - -	16654	27	118	1 in 114

Select Medical Library, No. 1, p. 28.

25. *On binding the Abdomen of Lying-in Women. By Hugh Ley, M. D.* Dr. Ley is of opinion that the value of the bandage so commonly applied after delivery has been greatly over-rated. In his experience there is but one circumstance in which the bandage with a compress over the uterus is imperatively called for. It is in a form of hemorrhage described by Dr. Gooch, in which the uterus which had contracted is again dilated by hemorrhage taking place into its cavity; in these cases, it is not only requisite that the uterus should be cleared of the coagula, but that it should be prevented from again enlarging; and this can only be done by a bandage and compress; but they should not be applied until repeated gushes of blood have reduced the circulation. In preventing the occurrence of hemorrhage, for which it has been advised, its use is very equivocal; for, amongst the poor, where it is omitted, the relative mortality from hemorrhage is probably less than among the rich. To restrain actual hemorrhage it is obviously insufficient; and, if it may have been applied, it must be removed, in order to ascertain the state of the uterus, and to adopt those manipulations by which the bleeding is effectually restrained.

The bandage alone may be applied over the abdomen, with moderate and equal pressure, in cases of syncope following rapid delivery, which is produced, as in tapping, from the sudden removal of pressure; and, in such circumstances, it should be applied immediately on the expulsion of the child. It may also be useful to satisfy ladies who believe that it will preserve their form by preventing permanent distention of the abdomen, and to relieve uneasy sensations consequent on the relaxed condition of the abdominal muscles; but, in these cases, it need not be applied until the clothes have been changed, and the patient placed in bed, and sufficiently loose to allow the hand to pass easily between it and the belly.

The bandage and compresses often produce *injurious consequences.* Dr. Ley has known it force the uterus to one side of the abdomen, producing much uneasiness in the hip, stretching the ligaments and pressing the

appendages of the uterus against the sharp linea ileo-pectinea: hence laying the foundation of permanent obliquity of the uterus, not unfrequently a cause of barrenness. Another effect is to push the uterus lower into the cavity of the pelvis; thus producing prolapsus uteri, which Dr. Ley has more than once traced to this cause. Not only is the uterus pushed downwards, but the vagina is sometimes thrown into folds; the whole circumference descending until it forms a bulky tumour at the vulva. These evils are great, and not infrequent. Dr. Ley is also inclined to think that the bandage increases after-pains.

Med. Gazette, September 10 *and* 17, 1836.

26. *Belladonna employed in Spasmodic contraction and Rigidity of the Uterus.* M. Carré of Briançon, gives the following cases in which belladonna was used to relax the uterus:—

Case i. A lady was in labour of her third child; the waters had broke, and, as no progress was gained, the midwife attempted to dilate the os uteri by her fingers. This proceeding increased the irritation and contraction, and produced general convulsions. M. Carré, being called in, bled the patient, and used the warm bath, but to no purpose. He then ordered the os tincæ to be rubbed with belladonna ointment every half hour; and after the third friction, the uterus became sufficiently dilated to permit the operation of turning, and the child was delivered and lived. The ointment was made by rubbing up eight grammes of Ext. Belladonnæ with sixty-four grammes of cerate, and of this from two to four grammes were used each time.

Case ii. A woman, æt. twenty-one, was prematurely taken in labour at the eighth month. The waters had broken for some time, and, when M. C. was called, he found the os uteri so strongly contracted upon an arm of the fœtus, that he could not introduce his hand. Having first had recourse to bleeding, &c., the same ointment was applied, and, after the fourth friction, the dilatation was sufficient to permit the operation of turning, and the extraction of a dead child.

Dr. Antony, (*South. Med. and Surg. Jour.* 150—1.) bears testimony to the *efficacy of Belladonna* in the following language:—

"Some cases of rigid, iron-like hardness of the os uteri had, in my early practice, greatly perplexed and called loudly on me for some means for its relaxation. At length about 18 years ago, when labouring under such a perplexity, I reflected on the power of Belladonna in dilating the pupil of the eye for cataract operations, and determined on the propriety of resorting to it for my present necessity. Considering it an article of much power, my next difficulty was to determine on the manner of its application. On searching for some preparation which might answer the demand, I finally adopted that of Chaussier's ointment, which I prepared and applied to the os uteri by means of a vaginal syringe, truncated near the round end. I filled the end to the extent of about one inch with ointment, and after introducing it to contact with the os uteri, whilst my patient was lying on her back, forced the ointment out of the syringe into the most depending part of the vagina, where the os uteri rested. The syringe was then withdrawn, and the ointment more particularly applied with the fingers to the whole of the os uteri. After two hours the opposing rigidity was found to be yielding, and the case progressed without further difficulty. Several cases have since occurred in which I have used it with similar success. In only one, was the second application needed. I have no fears in its free application in that way, after the liberal use made of it in those cases in which I have witnessed its safety and efficacy.

"For many years I have been in the habit of recommending freely its use to my private pupils, and for several years past in my public instruc-

tions, under the name of Dilating Pomade; not only for the relaxation of the os uteri in cases of a fixed hardness thereof, but also for promoting its *more prompt* relaxation in those cases of labour in which general convulsions are repeated at every period for pain; also in those cases of that rigidity of the os uteri which retards the progress of the first stage of labour, and which is the most common, troublesome resistance in the first stage. But it has not fallen to my lot to have an opportunity, when it was at command, for using it in these convulsions; nor have I yet been informed of its success or use in such cases. I think it worthy at least of trial."—*Select Medical Library*, No. 3. p. 107.

27. *Uterine hemorrhage after delivery.* There are many cases in which flooding begins immediately after the birth of the child. I was requested by a lady, who was accustomed to have profuse flooding immediately after the birth of the child, to attend her at her next confinement. The membranes were ruptured before I arrived; her face was much flushed; her pulse full and rapid. What was the cause of this disturbed state of the circulation? Did it proceed from the apprehension of danger, or was it from her having taken three glasses of wine daily after dinner, and a pint of porter at supper, fearing she should want strength during her labour? Be this as it may, she fell into labour with a disturbed state of the circulation; and the child was born soon after my arrival. I secured the navel string, and gave the child to the nurse; but, being prepared for hemorrhage, I determined not to interfere with the placenta until it was separated. With one hand I used friction on the abdomen; and with the other under the clothes felt if there was any hemorrhage. In five minutes, she said there was a quantity of something coming away, and gush came the blood from the vagina. I passed up my finger, and found the placenta separated and forced a little way into the vagina; and by a gentle extension of the cord I extracted it, when the hemorrhage immediately ceased. I now thought all flooding was over, but it soon began again; her pulse sunk, and she fainted. A short time before this case occurred, Mr. Rigby, in a conversation with me on this subject, had expressed a favourable opinion of plugging the vagina with cloths dipped in vinegar, as recommended by Le Roux, remarking, that the lives of many had been saved by it; but I feared, as the uterus is large at this time, that blood would still flow into it, the escape of which being prevented by the plugging of the vagina, the case would merely be converted into one of internal hemorrhage. However, I determined to give this mode of treatment a trial in the present instance; and therefore called for large pieces of linen, which, being first dipped in vinegar, I pushed one by one up the vagina, almost into the uterus. The hemorrhage seemed to cease; the patient recovered from her syncope; and I again thought all danger was over. She had afterwards a few trifling pains: the belly began to swell, and again she fainted; but gradually so far recovered as to express a wish to see her husband and children before she died; and I expected she would have died: her mouth was drawn on one side, and she became convulsed. I would have given any thing for a consultation, but in these cases there is no time for it; the life of the patient depends on the man who is on the spot: he must stand to his gun, and trust to his own resources. A practitioner who is not fully competent to undertake the management of these cases of hemorrhage, can never conscientiously cross the threshold of a lying-in room. I immediately pulled away the plugs from the vagina, and introduced my hand into the uterus, through a quantity of half-coagulated blood up to the fundus, where, inclining towards the front of the uterus, I felt something ragged projecting from the surface: to this part I applied my fist, and made counter-pressure with my hand externally. The hemorrhage ceased, and no more blood came away. In two or three minutes

the uterus began to contract, and I found my hand pushed gradually lower and lower, until expelled by the complete contraction of the uterus. I then withdrew my hand from the vagina, and the hemorrhage did not recur. A few minutes elapsed when she opened her eyes, and asked if all danger was over. I replied she was much better, and directed her to remain quiet. The effect of the stimulus of my hand, or of its pressure against the parietes of the uterus, was instantaneous; and in three days she was so much recovered, that she appeared to suffer nothing from the loss of blood. The best method then at once of making pressure on the bleeding vessels, and of exciting the contraction of the uterus, is, to introduce the hand into the uterus, and applying the first firmly to that portion of its surface over which the placenta was attached, make on the outside a counter-resistance with the other hand; this is much more effectual than friction on the abdomen, or tickling the uterus internally with your finger.

Gooch, pp. 163—167.

ANATOMY AND PHYSIOLOGY.

28. *On the Influence of the Nerves on the Developement of the Muscular System. By Professor Antonio Alessandrini.* In 1829, Professor Alessandrini published an account of the dissection of a calf whose medulla spinalis terminated about the tenth dorsal vertebra, and in which all the voluntary muscles were absent which are usually supplied by those spinal nerves which were wanting. Thus there were no muscles to the hinder limbs, and some of the muscles of the trunk were but half developed. On the other hand, all those parts essentially composed of cellular tissue, the integuments, adipose tissue, vascular system, aponeuroses, bones, &c. of the hinder extremities, were natural.

The conclusions which he then came to on the influence of the nerves in the growth of muscles were strengthened by the following case of monstrosity which has recently fallen under his notice. The vertebræ and spinal marrow of a young pig, removed from the uterus of a sow killed for food, who had gone with young her full time, were found to be deficient below the fifth dorsal vertebra. The head, neck, anterior part of the chest, and fore-legs were natural and muscular; but the posterior part of the thorax and abdomen had the appearance of a large ovoid bladder with strong aponeurotic walls, to whose fundus and lower extremity were attached the ossa innominata, which sustained the hinder limbs. All those parts of the thorax and abdomen, as well as of the hinder limbs, which were deprived of nerves, had no voluntary muscles. The viscera of the thorax and abdomen were natural, as well as the par vagum and grand sympathetic. The muscular coat of the intestines was very visible. Another instructive peculiarity was, the existence of an isolated portion of the vertebral column of the coxygeal or caudal region, containing a small cylindrical piece of the medulla spinalis, from which sprang some delicate nervous filaments distributed to muscular fibres, representing some portions of the caudal muscles.

From these two cases the Professor deduces the following propositions: 1. That the nerves contribute to the formation of muscular fibres more than the blood-vessels, as the latter were regularly formed in the hinder limbs. 2. Muscular fibre is not only formed by the influence of the nerves of animal, but also of organic life. 3. The existence of an isolated portion of the spinal marrow in the pig demonstrates that the various nodi or centres of the cerebro-spinal axis are formed independently of each other, so that it cannot be said that one is the production or prolongation of the other.—*Bulletino delle Science Mediche. Gennajo*, 1835. Vol. II. *Bologna.*

29. *On the Physiology of Vomiting: and on the Causes of its Difference in Adults and Children. By professor C. H. Schultz, M. D.* The great frequency of vomiting in infants at the breast, and the spontaneousness and facility with which this process takes place, are well known. It seems to occur without any previous nausea, as the infants, generally speaking, exhibit no signs of uneasiness. The case, as is well known, is very different with adults, in whom nausea and retching will, in certain cases, exist in a great degree for days, or even weeks, without any evacuation of the contents of the stomach. The facility of vomiting in general remains with children for some years after weaning, although this is effected with somewhat greater difficulty than during the period of nursing. The causes of this difference in the readiness to vomit at different ages has not, as far as I know, been yet closely investigated.

To enable us to prosecute this inquiry with advantage, it is necessary that we should have a perfect understanding of the causes of vomiting in general; and to this point I shall address myself in the first place.

The opinion first advanced by Boyle, that, in the act of vomiting, the stomach is passive,—the evacuation of its contents being effected by the contemporaneous contraction of the abdominal muscles and diaphragm,—has been adopted and powerfully advocated by physiologists of the greatest name, more especially of late years. Chirac confirmed the fact stated by Boyle, that no convulsive motions are felt in the stomach during vomiting in the case of dogs, when the hand is placed in contact with the organ through a wound made in the abdomen. Van Swieten, Senac, and others, adopted the opinion of Boyle on other grounds; and, in later times, Magendie has proved beyond question, that, in the case of dogs, not only are no convulsive motions of the stomach *felt* during vomiting, but none are *seen* when the stomach is laid bare; and, moreover, that when the abdominal muscles are removed, and the contractile power of the diaphragm destroyed, the act of vomiting in dogs, if not entirely prevented, is, at least, rendered extremely difficult. It accords with this view of the process, that, in man, vomiting becomes easier in proportion as the stomach is distended, and is thus more exposed to compression between the above-named muscles.

The objection to this explanation, derived from the fact that vomiting takes place in birds and amphibia which have no diaphragm, as also in certain cases in the human subject in which an abnormal position of the stomach had removed it from the pressure of this muscle, is not valid, since in such cases the thoracic viscera, during inspiration, present sufficient resistance to allow the stomach to be compressed between them and the abdominal muscles. It is indeed obvious, that the same muscular action takes place in the act of vomiting as in labour, cough, and the evacuation of the bowels and bladder, &c.; and that the discharge of the contents of the stomach by repeated fits or impulses, corresponds exactly with the spasm-like contractions of the abdominal muscles and diaphragm.

It has not, however, escaped the opposers of Magendie's theory, that if vomiting were effected exclusively by the abdominal muscles and diaphragm, it ought to be a purely voluntary act; whereas, it is known that only very few animals, such as frogs and birds of prey, can evacuate the contents of the stomach at pleasure. It results from this fact alone, that the before-mentioned muscles are not exclusively those which are active during vomiting; and we are hence led back to the old doctrine of the anti-peristaltic motion of the digestive organs. Maignault and Beclard have attempted to prove that, although the stomach is not spasmodically contracted, still that the œsophagus is thus affected, by fits, during vomiting in the dog; and every one who has experienced vomiting in his own person must have felt that these reverse spasmodic efforts of the muscles of deglutition commence in the pharynx. These gentlemen were further of

opinion that, in the act of vomiting, no anti-peristaltic movements take place in the stomach, but that this organ presents a state of equable tonic contraction, and that it is only by means of the fitful contractions and expansions of the œsophagus, aided by the action of the abdominal muscles, that the stomach is emptied of its contents.

While acknowledging our obligations to the French investigators, we must admit that there are many phenomena attending the act of vomiting which prove their theory to be at least insufficient. If the œsophagus and abdominal muscles are the only parts active during vomiting, how is the phenomena of fæcal vomiting to be explained? I consider this morbid state sufficient proof in itself that an anti-peristaltic action both of the intestinal canal and stomach does exist, while, on the other hand, no one can deny that there may and do exist contractions of the abdominal muscles, diaphragm, and œsophagus, without any vomiting. This is evident in the case of the horse, rabbit, hare, guinea pig, and several other herbivorous animals, which cannot be made to vomit even by the strongest emetics, although the strongest retching and contractions of the abdominal muscles take place, and although they possess the same organs as the dog, which vomits on the slightest occasion. It is the more important to investigate the cause of this difference in animals, as it will lead to the explanation of the much greater facility of vomiting in children than in adults.

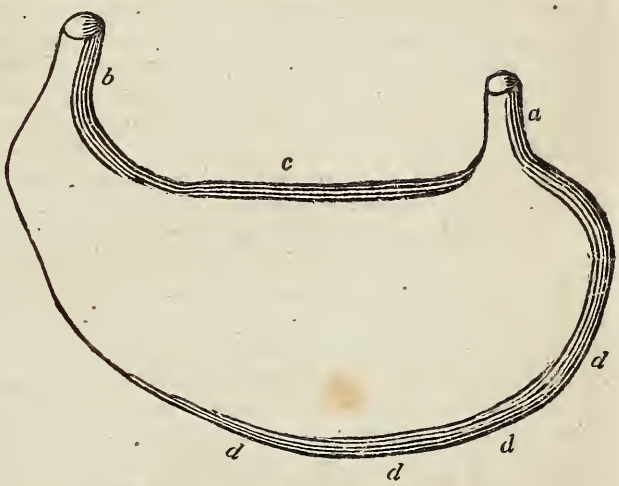
The cause of these differences lies in the particular shape of the stomach in different animals, a circumstance, as far as I know, hitherto unnoticed by comparative anatomists; and the same cause operates in producing the difference in the facility of vomiting in the infant and the adult; since there exists the same analogous difference of form between the stomach of the child and the adult man, as between the stomach of animals which vomit with facility, such as the dog and cat (and we may say carnivorous animals in general,) and the stomach of those which vomit not at all or with extreme difficulty, as the horse and rabbit, (and herbivorous animals generally.)

Before proceeding further in the enquiry, I think it necessary to state that my experiments and observations lead me to decide positively in favor of the existence of antiperistaltic motions of the stomach during the act of vomiting. Boyle, Chirac, and the recent observers in France, hastily concluded that, because they could discover no *convulsive* movements of the stomach that therefore there were no antiperistaltic movements of any kind: they found the stomach contracted and motionless. I admit that there are no convulsive movements, but I cannot concede that in the dog, for instance, the stomach is at rest during the act of vomiting. On the contrary, I maintain that decided antiperistaltic movements are perceptible, but these are not stronger than the ordinary peristaltic motions of the same organ. They are, moreover, not very distinct in the middle portion and fundus of the stomach, but only at the two extremities near the cardia and pylorus. The whole pyloric portion is strongly contracted when the cardiac portion expands; and, while this is going on, there is no perceptible motion in the fundus and larger curvature, and assuredly no convulsive one. But, it may be asked, what considerable effect can so slow an antiperistaltic motion have in vomiting? The answer is briefly this,—that, by this anti-peristaltic motion, (no doubt assisted by the abdominal muscles,) the *direction* is given to the food which is to be ejected by the act of vomiting, or which is to be forced from the intestines into the stomach in the case of fæcal vomiting. If the abdominal muscles alone acted on the perfectly passive stomach, the food might, by this pressure, be driven into the intestine as well as into the œsophagus; if, then, the contents of the stomach are to be ejected in a particular direction, it is requisite that the cardiac and pyloric portions should possess a distinct active motion.

I now return to the various forms of the stomach occasioning the differences in vomiting: and here I may take for granted as understood what I

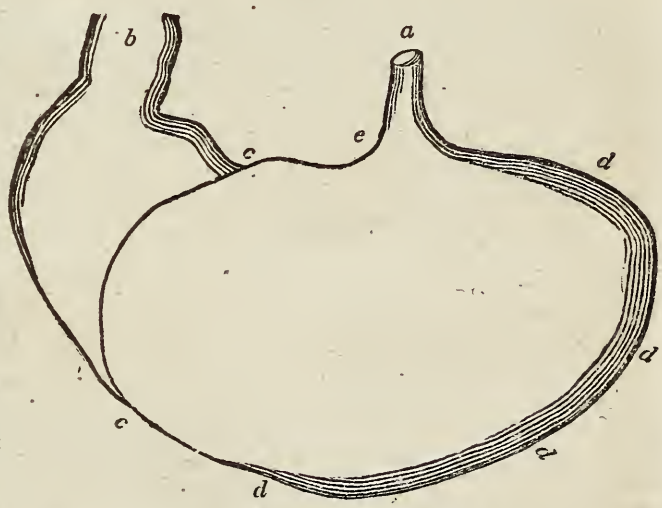
have detailed in the work '*De Alimentorum Concoctione*,' concerning the forms of the stomachs of carnivorous and herbivorous animals. It is demonstrable that a child's stomach is as different from that of an adult as a pole-cat's is from that of a rat; and, if the difference between the form of a child's stomach and that of an adult has not been sooner recognised, it is only because their very different functions and importance in the preservation of life had not previously been suspected; for this difference will not fail to strike every one as soon as his attention is directed to it. But, to make these differences still more conspicuous, I will introduce an outline of the form of a child's stomach, and that of an adult.

Fig. 1.



The stomach of a child (*Fig.* 1.) is more of a conical form, drawn out lengthwise, and gradually narrowing towards the two extremities, inferiorly towards the pylorus (*b*,) superiorly towards the cardia (*a*.) The œsophagus is inserted into the fundus at the left extremity, and at a distance from the pylorus; the small curvature is stretched out lengthwise (*c*,) the large curvature (*dd*) is less developed, and runs almost parallel with the small; in short, the stomach of a child resembles that of the carnivorous mammalia.

Fig. 2.



The form of the stomach of the adult is very different (*Fig.* 2:) it is more circular; the œsophagus (*a*) is not inserted into the left extremity, as is the case with the child's, but into the middle between the left extremity and the pylorus (*b*). The pylorus itself is drawn back towards the cardia, and both brought very near to each other; on this account, the small curvature is very short (*ce*,) while the large curvature, on the contrary, is disproportionately extended (*dddd*.) forming not only the entire lower circumference of the stomach, but also surrounding that part of the fundus situated between the cardia and the left extremity; so that the large curvature alone forms about four-fifths of the whole circumference of the stomach. It must also be added, that the fundus does not pass into the pyloric portion gradually and gently, as is the case with the child's, but that the latter is separated from

the former by a sort of neck or contraction (*cc*,) sometimes more, sometimes less, strongly marked. In consequence of this the left part of the stomach assumes an almost circular form, and the whole very much resembles the form of the stomach of the rat or rabbit, although in a less marked degree than in these animals.

To each of these different forms of the stomach, an entirely distinct motion, peristaltic as well as antiperistaltic, has been given. In the child's stomach, where the small curvature is extended almost parallel with the large one, the food is expelled with nearly equal power by the undulating motion of both curvatures, and forced towards the pylorus by the peristaltic, and towards the cardia and œsophagus by the antiperistaltic. In consequence of this, vomiting in children is very easy, because the œsophagus is situated at one extremity of the stomach, towards which the food is forced, at the same time that the pylorus closes and the cardia opens. But the process is very different in the stomach of the adult; in this, the small curvature is so much shortened, and the large one so much extended, that the food is not equally propelled from both sides, but the motion is almost confined to one side, and is effected principally by the large curvature, which embraces almost the entire circumference of the contents of the stomach; by this partial action, the contents of the stomach are moved rather in a rotary direction, which completely stops towards the contracted pyloric portion, turning round in the fundus from the left side to the right when urged by the peristaltic motion, and from the right to the left when by the antiperistaltic. In consequence of this, during the act of vomiting, the antiperistaltic motion does not direct the food towards the cardia and œsophagus, but merely communicates to it a motion contrary to that given by the peristaltic; and herein the reason is to be sought why, notwithstanding the pressure of the abdominal muscles and the diaphragm, the contents of the stomach are so difficult to be voided, and that, in many herbivorous animals, where the small curvature is still more shortened, the evacuation is impossible. The evacuation of the contents of the stomach of an adult can be effected only by a strenuous effort, produced by the strong pressure of the diaphragm and abdominal muscles at the same time that the œsophagus opens and shuts alternately; the stomach itself would be incapable from its antiperistaltic motion alone to discharge its contents upwards. In this respect there exists a completely different state of things in the pyloric and cardiac portions of the stomach. The pyloric portion from the point (*cc*,) where it is so much reduced in diameter, exhibits a more regular or intestine-like form of both curvatures, and the contents are on that account easily urged forwards into the duodenum; but, in the other direction, the contemporaneous motion of the two sides ceases beyond the contracted part, becoming, as already stated, rotary, in the cardial portion.

These details satisfactorily explain the differences so often referred to between children and adults. The former can discharge the contents of their stomachs by the antiperistaltic motion alone, without any perceptible assistance of the abdominal muscles; and the least pressure from these will increase the discharge. Animals whose stomachs are cylindrical, and in which, consequently, the ordinary relation between two curvatures entirely ceases, such as frogs or fishes, can, as it appears, with facility empty their stomachs by means of the antiperistaltic motion alone, without any cooperation of the abdominal muscles; and it is thus that they often throw up pieces of food merely on account of their inconvenient position in the stomach, and swallow them again in a more acceptable direction; even dogs, after having swallowed a piece of bone, frequently adopt a somewhat similar method. The human stomach in the earlier stages of its formation puts on the cylindrical form of the stomach of fishes and amphibious animals; in the embryo it appears only as a slight enlargement

and elongation of the œsophagus in the abdominal cavity, with the cardia directed upwards and the pylorus downwards, as is the case with frogs. The stomach assumes its horizontal position only at a later period when the curvatures become developed.

There are naturally an endless number of transitions and intermediate stages of development, between the cylindrical, conical form of the stomach of the infant and that of the adult; and these numerous transitions will be accompanied by as many degrees of facility or difficulty in vomiting. What appears to me particularly interesting in a medical point of view is, that the round stomach of the adult is frequently seen in children of a diseased or merely of a disordered condition at a much earlier age than usual, and that such children also generally vomit with much more difficulty. I have had opportunities of making this observation in several post-mortem examinations of scrofulous children; and in one instance was able to describe before death the probable form of the stomach, from the extraordinary difficulty with which the child vomited. On the other hand, the fundus of the stomach of adults is not always found to extend, in a like degree, beyond the insertion of the œsophagus towards the left side. There are human stomachs with the fundus so much developed, as to be with difficulty distinguished from those of herbivorous animals; and others, again, which approach nearer to the form of the dog's stomach from their imperfect development.

The question naturally here suggests itself:—What is the cause, not only of these differences, but of the changes in general, to which the stomach is subject at different periods of life? To me it appears that the cause is principally to be sought in the nature and quantity of the food. The cylindrical form of the stomach in children continues only while they are fed on milk, consequently on purely animal food; as soon as they receive vegetable food in any quantity, the fundus begins to develop itself. On that account, even in the first year, a strong development of the fundus is found to have taken place in such children as have been weaned immediately after their birth and fed on soft pap made of flour, potatoes, or bread. The influence of the food on the form of the stomach is distinctly observable in older persons. The stomachs of such persons who live principally on potatoes and other vegetables, are found to resemble most those of herbivorous animals; while the fundus in individuals who live more on rich animal food, is less developed. I have shown in my paper, "*De Alimentorum Concoctione*," that the stomach of dogs and cats (animals purely carnivorous,) will assume the circular form after they have been fed for some time on messes of potatoes, meal, and bread; but that their stomach will retain its original oblong form if fed on animal food alone. On this account, the round form of the stomach observed in the domesticated carnivorous animals is never found in wild animals of the same class, such as, for example, the pole-cat.

Man, as an omnivorous animal, certainly possesses the type of the more rounded form of the stomach; but the extent of the development until it attain the form of the stomach of animals purely herbivorous, will, however, in a great measure, be determined by the degree of preponderance of vegetable over animal food; and the development may be increased till it become morbid. The reason why vegetable diet should develop the fundus to such a degree that the stomach assumes the circular form, (and the rotary motion be in consequence given to its contents,) is, I believe, the following: I have shown elsewhere, in speaking of animals, that vegetable food is of much more difficult digestion, and consequently is retained much longer in the stomach. The food requires to be moved about longer, and not immediately propelled into the intestine; hence the rotary motion, by which it is agitated in the stomach without being directly emptied into the pylorus. By this action the digested part of the vegetable food is

gradually separated by layers on the surface of the mass, and is conducted into the pyloric division, in order to be passed into the intestine, while the undigested part continues in rotary motion in the centre of the stomach. In carnivorous animals the process is very different: the animal food, being soon digested, is directly propelled towards the pylorus by the united action of both curvatures, and does not require to undergo a prolonged rotary motion; whereas, if vegetable food be received in a stomach so constituted, it will necessarily pass into the intestine in a raw or only partially digested state. On the other hand, herbivorous animals cannot perfectly digest animal food unless the form of the stomach undergo a change, as, by long detention in the organ, the food, instead of being digested, becomes putrid. The attempts, therefore, which have been made in some places, to feed sheep, horses, and oxen, on fish or other animal matter, must ever fail. The inquiry whether the stomach of these animals might not be transformed by gradually accustoming them to animal food, is foreign to the present subject. But, even with dogs and cats, experience shows that purely vegetable food does not succeed, as it almost invariably renders them subject to the mange, (*raude.*)—But, to return to the cause of vomiting in children and adults.

Although the form of the stomach plays the principal part in vomiting, there seems to be another agent strongly cooperating with it, namely, the sensibility of the organ itself, particularly in respect of the nausea or sickness which produces the motions of the stomach in the act of vomiting. This is the reason why I do not assert that lunatics, who generally vomit with so much difficulty, experience this difficulty only because they have a herbivorous stomach; in such a case, we must consider the state of the brain as well as the sensibility of the stomach; the torpidity of the brain being often such as not to admit the perception of nausea: these persons, perhaps, frequently do not vomit because they do not experience nausea.

We have been endeavouring to show that the food is detained longer in the stomach of the herbivorous form, because it is kept longer in action there, without passing directly into the intestine, and that this form is adapted only to the more indigestible quality of vegetable food. If a stomach so constituted be suddenly filled with animal food, this food will be detained longer by the rotary motion than is necessary for the purpose of digestion, and the consequence will be, that the whole process will be disturbed, and the food, instead of being digested, will undergo a chemical decomposition. From this we may also conclude, that nothing will disorder the stomach sooner than sudden repletion with animal food, after long use of a diet in which the vegetable preponderated. Excess of vegetable food is much less injurious in such cases, as undigested vegetable matter is, in the intestine, not so easily decomposed, and excites the peristaltic motion more than animal food. It follows that we ought carefully to avoid sudden change of diet from vegetable to animal. To this may be ascribed the greatest part of the gastric diseases prevalent in summer, and still more in autumn, when the stomach, after having been for some time accustomed to vegetable diet, is suddenly charged with large quantities of animal food.

The only remaining question is, whether we can produce excessive retching by larger doses of emetics, as a substitute for the want of peristaltic expulsory motion in persons having stomachs of the herbivorous form? On closer observation, however, we shall be induced to believe that large doses of emetics in such cases would fail in producing the intended effect. There are persons in whom very powerful emetics would sooner produce death than vomiting, as is the case with rabbits. In such cases, I think, the greatest assistance will be afforded by such means as will facilitate vomiting, by increasing the pressure of the abdominal muscles on the stomach, such as filling it with fluids, particularly gelatinous fluids, or any

thing calculated to increase the elastic tension of the parts; perhaps, after all, the best means of facilitating vomiting in stomachs of such a conformation will be starch-flour or arrow-root boiled to a paste, as formerly recommended by Hufeland.—*Hufeland und Osann's Journal. Marz*, 1835.

30. *On the Anatomy of the Fifth Nerve. By B. Alcock, M. B.* This paper was communicated to the British Association at Bristol. It contains a brief account of some particulars respecting the 5th nerve, which the author believes to have been hitherto unobserved. These particulars are the following;—1. Both packets of the nerve can be traced to the same point of attachment, behind the middle crus of the cerebellum, in the angle formed by the three crura, behind and beneath the middle, above the inferior, and before the superior. 2. The point of attachment presents, when the surrounding portion has been pushed away from it, a small eminence which is imbedded in the substance forming the floor of the fourth ventricle, separated from the interior of the chamber by a thin lamina only. 3. Beside the fasciculus discovered by Rolando, Dr. A. has found a second and smaller fasciculus, which descends from the point of attachment, behind and within the inferior crus, and, between the posterior pyramids, enters the posterior fissure of the bulb and cord, and can be traced for some way along the back of the anterior column of the cord, into which it seems ultimately continued. Dr. A. observes, that it is contrary to our general impression that two portions of a nerve, supposed to have distinct functions, should be attached to the same point of the cerebro-spinal axis; and that the existence of a cord of communication with the anterior as well as the posterior column of the spinal cord removes any difficulty which might be created by the distinction in function between the two.

Dublin Journal, Nov. 1836.

31. *Determination of the Question, which are the Nerves of Taste? By B. Alcock, M. B.* This is a long and valuable paper, which was read at the meeting of the British Association, in 1836. It contains the results of many experiments made by the author, and critical remarks on the views of others. We regret that we must content ourselves with the bare enunciation of the inferences which the author has deduced from his experiments and reasonings, which are the following:—1st. That Taste is a special sensation. 2d. That it enjoys two media of perception. 3d. That its media of perception are the glosso-pharyngeal nerves and the lingual and palatine branches of the fifth nerves. 4th. That the glosso-pharyngeal nerves are not its special media. 5th. That the latter nerves both are sentient and influence muscular action; and 6th. That the spheno-palatine, ganglion and chorda tympani have no influence upon either the existence or perception of the sense. *Dublin Journal, Nov.* 1836.

32. *On the Functions of the Cœcum. By Dr. Schultz.* The objects of the learned Professor in making his experiments were to ascertain; 1, the function of the cœcum: 2, the digestibility of the different articles of food: 3, the manner of the dissolution of the fleshy fibres in the stomach, according to microscopical observations: 4, the degree of acidity in the stomach and cœcum: 5, the degree of alkalescence of the food in the stomachs of ruminating animals: 6, the nature of the acids in the stomach: 7, the coagulation of milk by the saliva, stomach, &c.: 8, the saliva: 9, the nature of the bile.

He maintains that there are two digestions, one in the stomach, the other in the cœcum, and that the latter is more especially active when vegetable food has been ingested. From the first experiment he learned that the degree of acidity in the cœcum is not always the same, that it is not always present, and that the food may even become alkalescent. From

the second, that this acidity was neutralized by long fasting, and thus allowed pure bile to enter the cœcum and neutralize its contents. From the third, that there is always bile in the course of the small intestines. From the fourth and fifth, that all the bile secreted by the liver during fasting, is by no means contained in the gall bladder, and that part is very small compared with the large quantity that flows into the intestine during the empty state of the stomach. From the sixth, that though bile is always flowing, it never passes the cœcal valve during fasting, but collects on the upper side of it; it is only after perfect acidification and at the beginning of the peristaltic motion of the intestines, that this bile flows into the cœcum. From the seventh, eighth and ninth, that the degree of acidity and alkalescence of various parts of the digestive canal, vary with the length of time that has passed after feeding, and the degree of perfection of the gastric digestion, as also with the length of time which animals have fasted before feeding. From the tenth, that the quantity of digestible matter which is contained in the food has a great influence upon the degree of acidity in the cœcum. From the eleventh, that in carnivorous animals, when the cœcum and colon are but little developed, the food is for the most part digested by the stomach and small intestines, and the acidity in the cœcum is in general very weak, since the food, when it is here collected, contains little or no digestible matter.

The general results from the whole of the experiments we give in the author's own words; they are of the highest interest and importance.

"*Results of the experiments upon the cœcal digestion.*—It may, therefore, be gathered from my observations and experiments, that the food in the *cœcum* becomes not only a second time sour, but that the acid chyme is there neutralized by the access of bile, in the same way as in the *duodenum*; so that after the employing of the intestines, very different reactions may be produced according to pleasure. On account of this twofold consumption of bile in the stomach and cœcum, there is an antagonism between the two digestions; for when the bile is consumed by the digestion in the stomach, the cœcal digestion cannot be perfected, and, on the other hand, when the bile flows into the cœcum, the neutralization of the acidity in the duodenum cannot take place. In those animals in which the cœcal digestion is most perfectly developed, this antagonism appears to be so arranged, that each digestion has its particular period of action, so that when the one is in action, the other is either lessened or at rest. In ruminating animals, it is very evident that the gastric digestion takes place more particularly during the day, and the cœcal at night, so I think the gastric may very properly be called the diurnal, and the cœcal, nocturnal digestion.

"In carnivorous animals, however, the cœcum is so little developed, that the stomach alone furnishes nearly the whole process of digestion. These animals, therefore, have a preponderating diurnal digestion. This agrees with the fact, that carnivorous animals rest for the most part during the day, and at night become hungry, and seek their prey, and are, therefore, nocturnal animals, since their digestion takes place during the day.

"As the formation of the feces follows the perfected cœcal digestion, herbivorous animals are accustomed to discharge the greatest quantities in the morning and evening, and but very little during the day, and the healthy course of digestion. There appears to be something similar to this in man, in those ages where the cœcal digestion is most developed; in childhood, on the contrary, when the digestive apparatus resembles that of carnivorous animals, repeated discharges of excrement take place at indefinite periods of time.

"*The use of the valvula cœci in cœcal digestion.*—That the cœcal digestion may take place, it is necessary that the still digestible remains of the food should be rendered acid and changed into chyme, as in the stomach, before its mixture with the bile. This could not happen if the bile flowed con-

tinually into the cœcum, and it is therefore probable, that its opening into the small intestines is closed during chymification, as the stomach is closed during its digestion, only with the difference which the different state of the matter required. The stomach is closed during digestion at the pyloric orifice, to prevent the egress of the food, and the cœcum at its iliac opening, to prevent the ingress of the bile. This is my view of the use of the valvula cœci. I have not only found in general at the lower end of the *ileum*, an alkaline reaction, while the upper is still either sour or neutral, but at certain periods of digestion, a collection of pure bile at the iliac orifice of the cœcum. The contents of the cœcum are at this time nevertheless sour. This would be impossible if the mouth of the cœcum were not closed during chymification. After the collection of the food, therefore, in the cœcum, its opening like that of the bladder, uterus and stomach, appears to be strongly contracted by its muscular fibres, and with the help of the valvula cœci, to be perfectly closed. The contrary is the case at the beginning of the peristaltic motion of the cœcum, and upon the opening of its iliac orifice the collected bile flows in. This agrees with the sensation of the ceasing of the peristaltic motion after the collection of food in the cœcum, which I observed upon myself, and have described in my work (*de Alimentorum Concoctione Experimenta Nova.*) It appears to me, therefore, that the generally admitted explanation of Fallopius, according to which, the use of the valvula cœci is to prevent the return of the food from the cœcum into the *ileum*, is quite unfounded; for it may be easily seen that during excretion, this backward motion is very possible.

Select Medical Library, No. 3, p. 92.

33. *On the causes of the motion of the Blood in the capillary Vessels. By Dr. Poiseuille.* The globules of the blood in the capillaries of the mammiferæ are found to possess different velocities even in the same vessel. Some of them have two simultaneous motions—one of rotation, the other of translation; while others remain motionless for a time. The velocity of globules in the capillaries is less than in the arteries and veins; or seldom greater.

Numerous experiments made, 1st, upon the heads of the salamander and frog, animals in which the circulation is, as it were, suspended at pleasure, show that it is established gradually from the centre to the circumference; 2d, upon the foot of the frog, dividing the crural vessels; 3d, upon the mesentery of the frog and salamander, by cutting the heart; 4th, upon the mesentery of young rats and mice. All these experiments, of which several are confirmed by those of the two celebrated physiologists, Haller and Spallanzani, have convinced Dr. Poiseuille that the heart and elasticity of the arterial coats are the *sole agents* in the capillary circulation in question.

In resting upon the preceding facts, that is to say, the action of the heart and arteries, and the tendency which the latter have to collapse when they are not sufficiently dilated by the tide of blood projected from the heart, the constant *jerking*, *intermittent*, and *oscillatory* circulation, which precede the death of an animal, are easily explained; the cause of the *retrograde circulation* presented by the arteries after the death of the animal and that of the heart is similar.

Dr. P. has established, by a great number of experiments, that the calibre which the arteries and veins present, proceeds from the pressure of the liquid which they contain; that their coats are constantly distended by the blood which they receive; that these vessels tend to collapse suddenly, in consequence of the elasticity of their coats, as soon as the cause of their dilatation is removed.

The large arteries and veins, as well as the small ones, possess this property; but, besides, the diameter of the last gradually diminishes when

they cease to receive blood. This retraction is sometimes so great, that the mesenteric vessels of the frog, salamander, young rats and mice, are reduced to two-thirds of their original diameter. He has also ascertained that, *cæteris paribus*, this reaction is more decided in the arteries than in the veins. These facts being known, it is easy to determine the motions of the blood in parts which have been separated from the trunk either by ligature or by a cutting instrument—motions which even yet are designated by the title of circulation.

Having cleared up these points, the author passes on to the examination of the causes of the irregular motions of the globules which he has observed in the capillary vessels.

If we study the course of the blood in the arteries and veins of the frog, of very young rats and of young mice, we observe, in proceeding from the axis of the vessel to the coats, that the velocity of the globules is totally different. In the centre, their velocity is at a maximum; it diminishes gradually as we approach the coats. In the immediate neighbourhood of the coats, a very transparent space can be observed, which is generally occupied by serum; this space is equal to about the 1-8th or 1-10th of the diameter of the vessel. This transparent part of the vessels observed by Haller and Spallanzani as being occupied by serum, has been again noted by Blainville.

Since some of the globules, rubbing against each other, are projected into this transparent part of the vessels, the globules placed in the middle possess a very slow motion, and they cease to move when they are almost in contact with the coats of the vessel. The globules which are nearest to this transparent part have a double motion of rotation and translation; they roll, if the expression may be used, over this part of the serum.

From these observations the author concludes that the interior of the vessels is lined with a layer of serum at rest. Since this layer is immovable in its immediate contact with the coats of the vessels, every time that a globule is placed there it will be at rest, or rather, its velocity will be more or less diminished, according to the portion of the globule immersed in it. Now, in the capillaries the globules move between two layers of serum. Hence, their motion ought to be less rapid than in the large vessels, since they require to overcome the inertia of this layer.

If a globule is partly in the layer, this portion of the globule will be at rest, while its remainder, placed in the axis of the vessel, will acquire a certain velocity; then the globule will move round its own axis, in order to acquire its normal velocity in following the centre of the vessel. If of two globules, one is placed in advance of the other in the layer, the former will pursue its course, and the latter will be delayed, and the motions described will be presented.

The labours of M. Girard upon the flow of liquids in tubes of small diameter have established, in most tubes susceptible of being softened by the liquid moving in them, the existence of a similar layer. The author passed through tubes of very small diameter, liquids holding in suspension opaque bodies; and, having examined this current by microscope, he found this layer immovable, and of a thickness much smaller than that obtained by the calculations of Girard.

Hence, the author concludes, that the blood transported by the vessel of the heart to all parts of the body does not impinge against the coats; that a layer of serum, by its state of rest, guards the coats from any such effects. Besides we can conceive the importance of this immovable layer of serum lining the coats of the vessels in the act of nutrition, since the recent experiments of Muller of Berlin have demonstrated, that the fibrin is held in solution by the serum.

Dr. Poiseuille has farther studied the influence of cold and heat upon

this layer of serum, and shows that the diminished velocity of the capillary circulation by cold and its greater rapidity by the action of heat, are naturally interpreted by the increase in the thickness of this layer in the first place, and its diminution in the second.

These results completely correspond with those of M. Girard on the variation in the thickness of the layer which lines the coats of inert tubes, when temperature increases or diminishes.

We know that certain animals, such as fishes, and some amphibious mammalia, are sometimes immersed nearly 262½ feet (80 metres) beneath the surface of the water, and then support a pressure of from seven to eight atmospheres. It is important, therefore, to know how this layer acts, and at the same time to observe the modifications of the capillary circulation under such pressure. With this object in view, the author has constructed an apparatus, to which he has given the name of *Porte-objet pneumatique.*

From experiments made with this apparatus, he infers, that the thickness of the layer of serum, the existence of which is due to the affinity subsisting between the coats of the vessels and the serum, a thickness which varies so remarkably from heat and cold, is independent of surrounding pressure, that the contractions of the heart preserve their normal rhythm, whatever the pressure is.

How absurd, then, is the opinion of these philosophers who consider that, without atmospheric pressure, circulation cannot go on; but atmospheric pressure, combined with the motions of respiration, are accessory causes of the flow of the blood, as Dr. Poiseuille has shown in another memoir. *Select Med. Libr. No.* 3, *p.* 90.

TOXICOLOGY.

34. *The Hydrated peroxide of Iron, an antidote against arsenic.* The value of this preparation of iron, as a preventive of the effects of arsenic on the living hody, has been tested in a favourable manner by MM. Leseur, Miguel and Soubeiran of Paris, Borelli and Demaria of Turin, in experiments on dogs; and by MM. Geoffroy of Paris, and Bineau and Majesté of Saumur, in trials on the human subject. Orfila, in communicating to the French Academy of Medicine the results of Leseur's experiments, thought that the German chemist, M. Bunzen, who discovered the antidote, had not overrated its importance.

In performing experiments to determine the effects of a poison on dogs, it must be borne in mind, that if a large dose, of arsenic for example, be given, and the animals allowed to vomit, it produced no effect. On the other hand, the operation to prevent the ejection of the contents of the stomach, which consists in tying the œsophagus, is itself fatal in its results. But as the arsenic kills in a few hours, if retained in the stomach, and the ligature of the œsophagus is not fatal often under two or three days, or even more, we can readily refer the death of the animal, into whose stomach arsenic has been introduced, and on which the ligature of the œsophagus has been practiced, to its true cause. When, therefore, another substance is introduced at the same time with the arsenic, or soon after, and death does not take place for a relatively protracted period, we are authorized in believing in the counteracting agency or antidote operation of this substance, whatever it be. A dog, whose œsophagus was tied without any other change being induced, survived seventy-eight hours. Two other dogs, to which respectively nine and twelve grains of arsenic were administered, and which were prevented from vomiting by tying the œsophagus, died in two hours and two hours and a half. In the experi-

ments subsequently made, the recently prepared peroxide of hydrated iron, mixed with water, was used in the proportion of twelve parts to one of white arsenic.

The results were that three dogs to which had been given poisonous doses of arsenic, to the one, twelve, and to the other two, eighteen grains each,—and subsequently, the hydrated peroxide of iron, the œsophagus being tied, survived the experiment,—the first, six days, the others seventy-eight and eighty-four hours. From the first one the ligature was removed after twenty-four hours, but the deglutition of solids being impossible, the animal died on the sixth day.

Another series of experiments was instituted to ascertain how far the effects of the poison could be arrested by the iron, after some time had elapsed from the administration of the former. The results showed that in all, life was greatly prolonged by the iron beyond the time when it would have been destroyed by the arsenic. So far MM. Miguel and Soubeiran.

The experiments of the Italian physicians were still more conclusive. They need not be repeated here, except one, in which a dog was made to swallow ten grains of arsenic, and immediately afterwards, three ounces of the hydrated peroxide; and its œsophagus was tied. The ligature was removed after twenty-four hours; and the dog continued to live for twelve days, at which time its deglutition was free: it was then killed by the same dose of arsenic as at first, but given without the peroxide of iron.

The case related by M. Geoffroy, of the antidotal powers of the iron, was of a hair-dresser, who, in a fit of delirium tremens, took from his desk a paper which contained white arsenic, amounting, as was afterwards ascertained on inquiry, to at least a drachm and a half. In twenty minutes afterwards the hydrated tritoxide was obtained, and four or five pints of warm or cold water, charged with it, were given in a quarter of an hour:—the treatment was continued for the next seven or eight hours, so that, altogether, the patient took twenty to twenty-five pounds of water, in which was suspended six ounces and four drachms of the preparation of iron. The first administration of the antidote was followed by copious vomiting and a stool, and during the remaining period the patient was vomited and purged three times. There was neither colic, heat in the throat, nor any symptom of poisoning: he complained of cramps in the fingers, and during the whole time was delirious, talking and gesticulating. He slept during the night ensuing the treatment, and in the morning appeared well.

The hydrated peroxide of iron used in the above experiments was procured in the following way. Sulphate of iron of commerce was mixed with five or six times its weight of water in a platinum or porcelain capsule, and when it boiled, small quantities of nitric acid were added until the ruddy vapour ceased to ascend: this was to bring the oxide of iron to its maximum of oxigenation. The liquor was then diluted, and the iron precipitated by liquid ammonia. The precipitate was washed and mixed with a small quantity of water until it had the consistence of clear "bouillie." As it cannot be weighed in this state, thirty-six times as much sulphate of iron is required as the poison taken, for the sulphate contains one-third of its weight of peroxide. It should be kept as a hydrate, for the dried powder does not act as an antidote. The chemical change consists in a conversion of the arsenious acid into arsenite of iron. Three times the quantity of the hydrated peroxide of iron is sufficient to neutralize arsenious acid in solution, and the decomposition is instantaneous; but as the arsenic when used as a poison is almost always swallowed as a powder, a much larger proportion of the antidote is advisable, for the action goes on very slowly. Even then, however, it must neutralize all ill effects, if it is

in contact with the arsenic, for as soon as the smallest quantity of the poison is dissolved, the oxide of iron acts upon it and precipitates it.

It is recommended in all cases of poisoning by arsenic to give the patient large quantities of hydrate of the peroxide of iron; at the same time also to encourage vomiting, to get rid of undissolved arsenious acid from the stomach; and to repeat the hydrate as long as there are symptoms of any of the poison remaining. *Select Medical Library, No.* 1, *p.* 34.

MEDICAL INTELLIGENCE.

35. Meeting of the British Association for the advancement of Science—*Held at Bristol, in August*, 1836.

Abstract of the proceedings of the Medical Section. The proceedings of the Section were opened on Monday, the 22d of August, by an address from its President, Dr. Roget, on the general objects of the Association, and those of the Medical Section in particular. Those objects he stated to be the collection and concentration of information, and its subsequent diffusion, after having been carefully sifted and having received the stamp of the Association.

1. The Report of the Dublin Committee appointed to investigate the Pathology of the Brain and Nervous System was produced by Dr. O'Beirne, who stated that the present must be considered only as a provisional Report as the committee had been chiefly occupied with the collection of numerous cases of injuries of the brain, and lesions of individual nerves, the particulars of which cases had been carefully registered; and they are anxious to procure a still greater number before they venture to form any general inferences.

2. Dr. O'Beirne then communicated an abstract of an unpublished work on Tetanus. He commenced with an account of the opportunities which he had enjoyed of observing this disease, which were numerous and extensive, and of the circumstances which induced him to commence and prosecute the enquiry. Dr. O'Beirne repudiates all specific divisions of the disease, except that which distinguishes the *traumatic* (or symptomatic) from the *atraumatic* (or idiopathic.) He allows of no such varieties as *Trismus* and *Pleurosthotonos*, recognizing only *Opisthotonos*, which is the more common form, and *Emprosthotonos*, which he agrees with authors in considering very rare. He proposed to arrange particular specimens of the disease as being *peracute*, *acute*, *subacute*, and *chronic*; and then went into a consideration of the causes, respecting which his views were in accordance with most authorities.

The extreme periods of accession of the traumatic species were, according to his experience, the fourth day and the seventeenth; he stated that it never occurred after the cicatrization had been completed, or during the existence of active inflammation in the wound, and that it never succeeded a wound which did not penetrate below the skin, to the muscles or fascia. The general character of the disease he finds to be the same in all climates, countries, and ages; but the atraumatic species supervenes much earlier than the traumatic.

He has no confidence in any reputed premonitory symptoms, and finds that in no instance is it ushered in or attended by symptoms peculiar to febrile diseases or eruptions on the skin, except quickness of pulse, which in the atraumatic species is permanent. He denies the existence of any tendency to crises or sudden disappearance, and states that recovery takes place slowly, the period varying from eighteen days to seven or eight weeks.

The only true pathognomonic sign is a *peculiar expression of the counte-*

nance, long retained after the attack, and even after death, and not indicative of any particular mental emotion. An engraved representation of the face of a patient during and between the tetanic paroxysms was exhibited.

The symptoms of the disease in both species were minutely stated, and arranged under three stages. The only constant morbid appearances are distention of the cæcum and colon, and rigid contraction of the rectum. In the emprosthotonic variety, an extremely contracted state of the stomach is occasionally noticed.

Dr. O'Beirne lays stress upon the amount of pain in opisthotonos being much less than is generally supposed, and declares the symptoms and course to be more uniform in this than in any other malady. In his observations on the diagnosis, he remarked upon the extraordinary extent to which this disease had been confounded with others, and enumerated the spurious cases under several heads. He particularly mentioned that, if he were to find in a patient the angles of the mouth drawn either upwards or downwards, he should conclude that the case was not a true specimen of the disease.

With respect to the seat of tetanus, Dr. O'B. expressed his belief that the anterior column of the spinal cord, and probably the thalami optici and corpora striata, are the parts in the affections of which we must look for the pathology of the disease; but he considers that, in emprosthotonos, the pneumogastric nerve is also affected. The change in these parts is functional only, and not connected with inflammation or organic lesion. All the symptoms are therefore the product of muscular action, dependant upon an accumulation or increased intensity of the *motific principle*, residing in the anterior spinal column.

The remedial measure on which Dr. O'B. places most reliance is the use of tobacco enemata, thrown into the colon by means of a flexible tube introduced through the rectum. This method is detailed in his work on Defæcation, which he stated to have been the offspring of his researches upon tetanus. He presented a list of twenty cases, eleven of which recovered; and concluded his paper by adverting to the disease as it occurs in the horse, in the treatment of which, his method, in the hands of veterinary surgeons, had been attended with success.

A discussion then ensued, in which Dr. Yelloly, Dr. Reid, Dr. Wallis, Mr. Bracy Clark, Dr. Fowler, Mr. King, Mr. Hetling, Dr. Symonds, Mr. Greeves, Dr. Howell, Mr. Carmichael, and Mr. Broughton, severally took a part. To us it appeared that the difference between Dr. O'Beirne and those who opposed his views was principally one of words, depending upon the restricted or extended sense in which the term tetanus was respectively employed by them.

3. A case of Aneurism of the Arteria Innominata and Thoracic Aorta, communicated by Sir David Dickson, was read by Dr. Symonds. This paper was accompanied by a drawing representing the diseased parts.

Tuesday.—1. The first paper read was entitled "Observations on Remedies for Diseases of the Brain," by Dr. Prichard.

The principal object of this paper was to recommend the employment of a peculiar mode of counter-irritation in all those forms of cerebral disease which are accompanied by coma, stupor, or diminished sensibility, excluding those which are attended with excitement. This method consists in the formation of a *long issue*, better made by the scalpel than by an escharotic, in the direction of the sagittal suture. The details of a case of complete amaurosis unsuccessfully combated by the antiphlogistic and mercurial treatment, but in which sight began to return immediately upon the establishment of suppuration in an issue of this description, were given; and the patient, to whom his sight has been perfectly restored, was submitted to the examination of the Section.

2. A communication was then read by Dr. Houston, of Dublin, on a

human fœtus without heart or lungs. The case was one of twins, between the seventh and eighth months. The placentæ were intimately united, but the line of their junction was distinct. Each fœtus had its own membranes and umbilical cord, the latter being inserted into the placenta at some distance from each other. The imperfect fœtus was acephalous, as in other instances of the kind, but was alive at the time of birth; there was no subdivision of chest and abdomen; the spinal canal began at the sixth cervical vertebra; there was no heart, lungs, liver, or stomach; the lower intestines contained meconium; the kidneys existed, but only one ureter; and there was general œdema of the whole body. The state of the circulating apparatus had been carefully examined by Dr. H., and appeared to him to lead to some important conclusions. The cord was short, and the umbilical vein, which was nearly straight, communicated with the right hypogastric, which joined the vena cava in the usual manner. From this vessel branches proceeded throughout the system, *all of which were totally devoid of valves.* The arterial system arising from the aorta was in like manner distributed through the body, but had nowhere any communication with the venous system, except by the capillaries; so that, by whatever vessels the blood entered the body, by the same it must have been distributed. A round tumour, which existed in the substance of the cord, outside the umbilicus, had produced effects on the vessels calculated to throw light on the course of the circulation; the vein was varicose from the tumour as far as the placenta, and the arteries were dilated on the side next the body of the fœtus.

Dr. Houston then adverted to the researches of various anatomists on the circulation of the acardiac fœtus, and especially to those of Sir A. Cooper, who maintains, from the examination of a recent case, that the umbilical vessels of two fœtuses anastomose freely in the placenta, and that the circulation in the imperfect embryo is carried on by the action of the heart of its companion in utero. If this view be correct, the heart of the perfect fœtus ought to be nearly double its usual size, or the child itself small,—neither of which is the case; the umbilical artery of the imperfect fœtus would then serve the purpose of the vein in carrying the blood *from* the placenta, which in this case it did not appear to have done; and a large quantity of the blood would be continually circulating without the renovating influence of the placenta. The presence of a second placenta, however imperfect or however connected with the other, is incompatible with the direct transmission of blood from the perfect to the imperfect fœtus, and with the idea that the latter is a mere offset from the former. The effects produced by the tumour on the vessels of the cord, and the absence of valves in the veins throughout the body, were adduced by Dr. Houston as strong evidence in favour of his opinion that the circulation of the *cord* of the monster was regular, but that in its *body* the functions of the arteries and veins had been inverted. He considers that the presence of an anastomosis between the cords should lead rather to the inference that the blood traverses both placentæ in the same course, than that it takes a direction in the one different from that which it follows in the other. Dr. H. suggested several good reasons in support of his opinion that the heart of the perfect fœtus can exert little influence upon the vessels of the other; and expressed his opinion that we must look to some other cause than *vis a tergo* for the accomplishment of this object. The theory of "vital attractions and repulsions," though conveyed in terms which may be considered rather as expressive of the facts than as explanatory of them, probably approaches nearer to the truth than any other which has yet been broached. With respect to the influence which the action of the vessels themselves has upon the circulation, Dr. Houston mentioned a case in which injection passed very freely through the vessels of a mortified limb, which were entirely free from coagulum or other ob-

struction; but the blood had not passed through them during life, though the action of the heart was unimpaired.

Dr. Prichard and Dr. Carson objected to the inference drawn by Dr. Houston from the latter case. Dr. Macartney stated that he had more than once endeavoured to inject a gangrenous limb immediately after its removal, but had been unsuccessful.

Mr. Carpenter pointed out the very striking analogies which are presented by the circulation in vegetables, all of which favour the view that the motion of fluids in vessels is in a great degree independent of a central organ of impulsion, and is closely connected with the changes which take place in the capillary vessels. He also alluded to the fact that there was no case on record in which an acardiac fœtus existed without a perfect fœtus.

Dr. Houston remarked on the latter point, that he was strongly disposed to believe that the partial union of the placentæ was the cause of the monstrosity.

3. The next paper read was on Tubercle, by Mr. Carmichael, of Dublin.

Mr. Carmichael commenced with some remarks upon the great prevalence of these formations, and then proceeded to detail their appearances according to the descriptions of Laennec and Carswell. He alluded to the use of the term Scrofula, which he considers a cloak for ignorance, and having stated that Drs. Todd, Clark, and Carswell, believe in the identity of Scrofula and Tubercle, disputed this position, and likewise their opinion that tubercles are inorganic deposits. Among other objections, he urged the inconsistency of representing enlarged cervical glands and pulmonary tubercles as identical, since it is well known that the former may be injected, but not the latter;—and of maintaining the non-inflammatory origin of tubercles, together with the view that these bodies are lifeless matter; since, if such is their nature, they must excite inflammation in the tissues which contain them. He allows, however, that the scrofulous constitution disposes to Tubercle, but only in the same manner as to Cancer. Mr. C. next adverted to the generally recognised connexion between Scrofula and disordered digestion, and claimed the priority of this observation, by reference to a work which he published in 1810. He then proceeded to argue at considerable length in favour of the parasitic origin of tubercles, pointed out the absence of vascular communication between these bodies and surrounding parts, and observed that so long as the former retain their vitality, no inflammation takes place.

The author declared his opinion that Carcinoma must likewise be arranged among the Entozoa, and having indicated the division of a cancerous formation into a medullary and cartilaginous portion,—assigned to the former an independent vitality, the latter being only a barrier which nature sets up against the parasite,—and showed that the containing cyst belongs to the surrounding tissue. The cartilaginous portion, he stated, might be injected, but not the medullary. Tubercles he considered more allied to Carcinoma than to Scrofula. Having spoken of a difference between Fungus Medullaris and Fungus Hematodes, he proposed to arrange the formations which had passed under review as constituting four species of Entozoa. 1. Tubercles found in the lungs. 2. Tubercles found in the abdominal organs. 3. Fungus Medullaris and Hæmatodes. 4. Cancer.

Mr. Carmichael next considered the exciting causes of Tubercles, and concluded his paper by urging that practitioners must direct their attention rather to the prevention than to the cure of the disease; but allowed that improvement in the general habit may possibly, at the commencement of the disease, tend to its removal.

Dr. Macartney stated several reasons for his dissent from Mr. Carmichael's doctrine of the independent vitality of Tubercle. He considers that the vesicular appearance is confined to the lungs, and is owing to the de-

posit taking place around the bronchial cells. He also contended, that although tubercular matter itself is not vascular, each deposit is traversed by bands of cellular tissue which may be injected, and by which it is distinguished from a hydated vesicle. He recommended to the attention of anatomists his mode of displaying the vascularity of minute structures, by drying them on glass after having injected them.

Dr. Symonds objected to the manner in which the views of Dr. Carswell, Dr. Clark, and others, had been represented by Mr. Carmichael. They had not appeared to him to maintain the identity of Scrofula and Tubercle, but that they stood in the relation of cause and effect, or of *diathesis* and *disease*. Nor did those authors appear to him to have attributed an identical structure to tubercles in the lungs, and enlarged cervical glands; they had only shown that tuberculous matter is deposited in the tissue of the glands, and consequently that there is no difficulty in understanding why the latter may be injected, though mere tuberculous substance in the lungs, or elsewhere, cannot. Dr. S. urged, that as the form of tubercles in the lungs depended on the parts in which they were deposited, no argument could be drawn from so accidental a character in favour of the hydatidal doctrine.

Wednesday.—1. Dr. Macartney read the second report of the Dublin Committee appointed to investigate the actions and sounds of the heart. In answer to the questions proposed in the resolutions of the Committee last year, they state that the contraction of the columnæ carneæ occurs at the same precise moment as that of the whole mass of the ventricle, and that the valves are not *tightened* by their contraction, but by the impulse of the blood during systole, although they are drawn towards the auriculo-ventricular axis by the first-mentioned cause. The experiments instituted by them to elucidate the causes of the sounds of the heart, brought them to the same results as have been detailed in the first report; and they suggest that the future investigation of the subject should be prosecuted rather by the observation of disease than by physiological experiments.

2. The report of the London Committee upon the same subject was next read by Dr. Clendinning.

Considering that each sound of the heart might have a single cause, or be the result of a combination of causes, the Committee began their investigations by enumerating all the causes which might be supposed to be concerned; and resolved to vary their experiments so as to exclude each of them in succession. The following is the result of their researches regarding the causes to which the first sound has been attributed:—1. *Valvular tension.* The action of the auriculo-ventricular valves may be prevented, without the sound being immediately diminished.—2. *Collision of the particles of fluid* amongst themselves and against the sides of the heart. By experiments with a caoutchouc bottle, it was proved that this cannot be one of the causes of the *normal* first sound of the heart; but it appeared probable that it might contribute to the production of the bellows sound, if any obstruction were offered to the motion of the fluid.—3. *Impulse.* This is probably an accessory, but not the principal cause of the first sound. —4. *Muscular tension.* From various experiments it appears that this is the essential cause of the first sound. If a flexible ear tube be applied over the abdominal muscles, the sound of their contraction may be distinctly heard (being probably exaggerated by the cavity beneath), and appears to be of a *systolic* character. A sudden loud sound is heard during the contraction, and continues in a less degree as long as the contraction is kept up.

As to the second sound, the period at which the columnæ carneæ contract, and the cause of the tension of the valves, their conclusions are the same as those of the Dublin Committee.

3. A letter from Dr. Spittal, of Edinburgh, to the Secretary of the Sec-

tion, was read, explaining the cause of no report having been furnished by the Edinburgh Committee.

4. A communication on the Mechanism of the Heart was read by Mr. Greaves, of Nottingham. The author endeavoured to show that the *external* spiral fibres of the ventricles, antagonize the *internal*, and produce active dilatation of the cavity, instead of the passive dilatation which is generally regarded as being produced by the relaxation of the muscular fibres, and the elasticity of the inter-muscular tissue. He referred the mechanical phenomena of the heart's actions to a species of gyratory movement, compensated and regulated by the double spiral curve of the two great arteries, which he regards as acting like the balance-spring of a watch.

5. Dr. Roget read some observations on a singular development of polarizing structure in the crystalline lens after death, communicated by sir D. Brewster.

The object of the author of this paper was to institute a comparison between the changes produced by age in the polarizing structure of the crystalline lens of animals, with those changes which occur in the same organ after death, when the lens is allowed to indurate by exposure to the air, or is subjected to the continued action of an aqueous fluid, such as distilled water. With this view he examined the optical characters of the coloured luminous rings which appear in consequence of the polarizing properties acquired by the lens under these circumstances. These phenomena he conceives to afford a satisfactory explanation of the changes in the lens which terminate in cataract, a disease which seems to be more prevalent now than in former times. In a letter addressed to Dr. Roget, Sir D. Brewster gave the history of the condition of his own eye, in which he accidentally observed appearances indicating the commencement of the process described in this paper, and detailed the plan which he adopted for counteracting the progress of this affection, by which the organ was restored to its natural and healthy state.

6. Dr. Carson, of Liverpool, then read a paper on Absorption. He arrives at the conclusion that absorption is effected by three sets of vessels; —that of nutritious matter by the *Lacteals* and *Lymphatics*;—and that of matter which has become useless in the system, by the *Veins*. He imagines that the arteries and veins communicate with each other throughout the system by means of cells, like those of erectile tissue, into which the terminations of each set of vessels open; and that the nutritious particles deposited by the arteries, displace those which have become useless, and which are taken up by the open mouths of the venous capillaries; and he believes that veins do not absorb by their parietes. Dr. C. entered into an extensive consideration of the manner in which the contents of the veins were conveyed to the heart, and of the changes which take place in the pulmonary vessels.

Thursday.—1. Dr. Hodgkin read a provisional Report of the Committee for investigating the connexion between Veins and Absorbents. As this report will appear in a complete form in the Transactions of the Association, we think it better not to give any abstract of it at present.

2. A communication on the Functions of Nervous Structure was read by Dr. Reid, of Dublin. The principal object of this paper was to enforce the method of studying the nervous system under three divisions: viz. the Ganglionic, the Spinal, and the Cerebral systems. Dr. R. pointed out what he conceived to be the principal functions and province of each of these systems, and stated his opinion that all diseases should be arranged, and all remedies selected, according as the latter have their action directed to, and the former are found to affect one or other of these divisions of the nervous system in particular.

3. Mr. Broughton read a report by Dr. Marshall Hall and himself, on the Sensibility of the Glosso-Pharyngeal nerve. They had in a former

report arrived at a negative result; viz. that this nerve does not endow the tongue with tactile sensibility or motion, which clearly depend on the fifth and seventh pairs. They now present their experimental researches in proof of the Glosso-Pharyngeal being the true nerve of taste, which completely accord with the observations of Panizza. Some facts in Comparative Anatomy were mentioned corroborative of their views.

4. A communication from Mr. Alcock, on some particulars in the Anatomy of the fifth pair, was read by Dr. Geogheghan.

5. Dr. Macartney presented an account of the organ of voice in the New Holland Ostrich. The peculiar *grunt-like* sound produced by the animal depends, as he has discovered, on the communication of the trachea with a large membranous cell placed under the skin of the neck; a formation peculiar to the animal, and common to both sexes.

6. Dr. Macartney next read a paper on the Pulps of the Teeth, and on Caries of these organs.

7. A communication from Dr. Montgomery, on a newly-discovered Peculiarity in the Structure of the Decidua, was then read by Dr. Geogheghan. The discovery announced in this paper was that of a number of small cup-like elevations on the uterine surface of the decidua uteri, which are found to be little bags, like the suckers of the cuttle-fish in miniature, the bottoms of which are attached to or imbedded in the substance of the decidua; they then bulge out, and terminate by a contracted neck, leaving an open mouth when the membrane is separated from the uterus. They are most numerous at a distance from the placenta, and most evident in the very early period of gestation, before the placenta is formed as a distinct organ. Dr. M. suggests, from having occasionally found them to contain a chylous fluid, whether they may not be receptacles of nutrient matter separated from the maternal blood.

8. A paper on the Functions of the Muscles and Nerves of the eyeball was read by Mr. Walker. The action of the oblique muscles of the eyeball was explained by the author as rotating the eye inwards, but by opposite rotatory movements; so that, if the eye were rotated in one direction by the action of one of these muscles, it would be returned to its former position by the action of its antagonist; while, if both muscles were in action together, there would be no rotation at all, but a direct drawing of the eye inwards. An explanation of the reason for the complicated muscular apparatus of the eyeball is afforded, in Mr. W.'s opinion, by a reference to the arrangement of the nerves. The distribution of the 3d nerve to the superior, internal, and inferior rectus, and to the inferior oblique, points out the association of these muscles in all corresponding motions of both eyes; and the two other nerves (the 4th and 6th,) with which the two remaining muscles are supplied, are required for the direction of the eye outwards, whilst the other is turned inwards, as is the case whenever an object is viewed laterally.

Friday.—1. A communication was made on the Pathological Condition of the Bones in Chronic Rheumatism, by Mr. Adams of Dublin. The various changes taking place in the extremities of the bones which constitute the joints chiefly attacked by this disease were minutely described, and illustrated by interesting specimens, casts, and drawings.

2. The report of a Committee appointed in Dublin to pass opinion upon a case exhibited by Mr. Snow Harris to the section at the last meeting of the Association, was read by Dr. Evanson. The committee are decidedly of opinion that this interesting case was not one of fracture of the neck of the femur, as had been supposed, but an instance of the Morbus Coxæ Senilis.

3. Mr. Adams exhibited to the section a very splendid preparation of a case of double Popliteal Aneurism, illustrative of the changes which are produced on the circulation by the ligature of the femoral artery. In this

instance the tube of the artery was continuous immediately above and below the situation where the ligature had been applied; and the anastomosing channels were very large. Mr. A. pointed out that the speedy restoration of the tube of the artery accounts for the secondary pulsation which often occurs within two or three days after the operation, until coagulation takes place in the sac. This occurrence has often caused alarm to the surgeon, but unnecessarily, since the cure of aneurism seems to depend rather upon the retardation of the current of blood than upon its total obstruction.

4. Mr. Hetling then exhibited a new instrument for the removal of ligatures from arteries. He showed that, by the use of it when the ligature is applied, the thread may be afterwards cut at any time; and that all the inconveniences arising from the protracted retention of the ligature may be thus avoided.

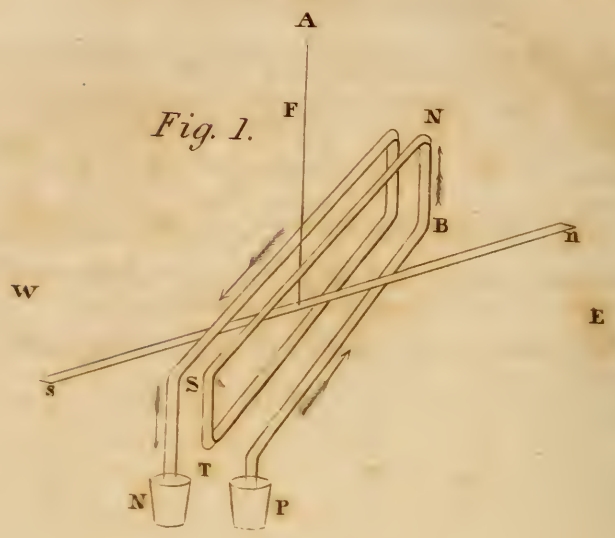
5. A paper by Mr. Alcock was read, disproving the opinion of some physiologists that the sense of taste is dependent on nerves from the spheno-palatine ganglion, which may be considered a confirmation of the views stated in Mr. Broughton's paper of the preceding day.

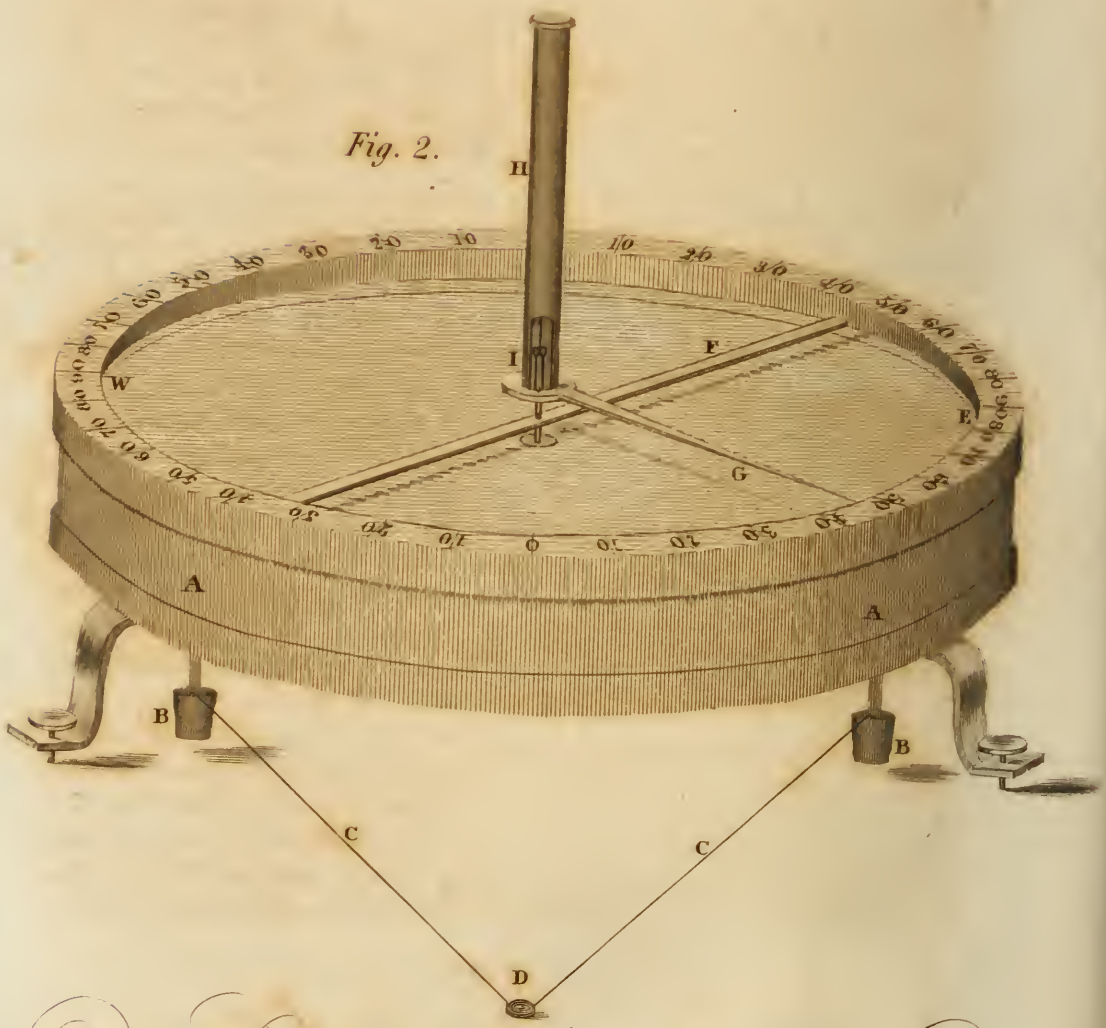
6. Dr. R. T. Thompson read a paper on the chemical states of the digestive organs in health and disease. His observations did not appear to us to have led to any novel results.

7. Mr. Gordon exhibited some portions of a very beautiful and correct anatomical model of the human body, carved in ivory, upon which he has been engaged for many years.

8. Dr. Howell communicated a case in which a large portion of the ileum had been passed per anum, the patient surviving more than twelve months: it was illustrated by some interesting drawings.

After a concluding address from Mr. Broughton, (who had taken the chair in the absence of the Presidents and Vice Presidents,) this Section adjourned.





Dr. Locke's Thermo-Electrometer

Scale one third the full size.

Doolittle & Munson Sc.

PHYSICAL DEPARTMENT.

LARGE THERMO-ELECTROMETER;

INVENTED BY JOHN LOCKE, M. D., PROFESSOR OF CHYMISTRY IN THE MEDICAL COLLEGE OF OHIO, ETC. ETC.

With an account of some Experiments in Electro-Magnetism.

To a person unacquainted with the new science of Electro-Magnetism, the following article will be unintelligible, unless he attend to the elementary principles explained by figure 1.

This figure represents a magnetic needle, such as is used in a compass, freely suspended from the middle by a filament from the point A, surrounded by two turns of copper wire, within which it can freely revolve in a horizontal plane around its point of suspension, in the same manner as in a compass. The two ends of the wire are soldered each to a brass thimble, P and N, containing a little mercury, in which are to be inserted the conjunctive wires from a galvanic battery. The fundamental law to which most of the surprising phenomena of Electro-Magnetism are referable is this :—

When a continued current of electricity is passed along a metallic conductor parallel, and near to, a freely suspended magnetic needle, it will tend to turn the needle into a line at right angles to the conductor, the poles of the needle always taking a uniform position in relation to the current. Example :—A current transmitted from P to B, that is, from south to north, underneath the needle, will turn the north end of the needle, N, towards the east, where it would become stationary, unless the magnetism of the earth acting as another force, should hold it a little north of east. If, now, the current of electricity be reversed, and sent from B to P, that is, from north to south, underneath the needle, while it lies with its north pole *exactly* to the east, no effect will be produced ; it would remain balanced between forces, like a rod standing perpendicular, not inclined to either side ; but should it be turned a little to the north or south of east, it will be impelled in a half circle either to the north or south, until the north pole of the needle points to the west. It is obvious that, by reversing the electrical current at every half turn at the east and west points, the needle may be perpetually impelled in a constant revolution, like the balance-wheel of a steam-engine, by similar semicircular impulses upon the crank.

So far I have explained the effect of a current in one line only, that is, from P to B, and the reverse. The figure represents the conductor proceeding still farther, and doubling around the

needle. Let us now examine the effect of the current in various parts of the circuit. It has already been stated, that the effect of the electrical current from P to B, was to turn the north end of the needle to the east. The effect of the upward part, B N, of the upper part, from N to S, and of the downward part, from S to T, will be the same; the impelling of the north pole of the needle to the east. To be satisfied of this, suppose the needle to be turned quite "east-and-west," and that on that as an axis you turn the whole apparatus over, until you bring the three parts of the conductor just named, successively into the position now occupied by the first. It will be seen, that in each case, the current passes from south to north, underneath the needle, which has its north pole to the east. Thus, by doubling a long conductor repeatedly round a needle, the effect of the whole of it may be brought to bear upon it, impelling it in one direction. This is the essential principle of the "Thermo-Electric Multiplier." The improvements which I have made in this instrument are chiefly two. 1. I have spread out the coil, and brought the several turns of it side by side, as near as possible to the needle. 2. I have increased the thickness of the wire of which the coil is made, so as to allow the electricity to pass with greater freedom and with "moderate velocity," which are conditions necessary to magnetical effects. A paper, containing a notice of the improvements by spreading the coil, was published in the fifty-third number of Silliman's Journal; and some account of the second improvement was lately published in the Gazette of this city; from which account some of the following remarks are extracted.

It is not many years since it was discovered that when two metals unequally heated are placed in contact, electricity is transmitted, in some cases, *along with* the heat, from the hotter to the colder metal, and in others, in *opposition* to it, from the colder to the hotter body. It was thought wonderful when this source of electricity became evident at an extreme difference of temperature, one metal being heated to redness. After Professor Oerstead discovered that the magnetic needle tends to place itself at right angles to a wire, through which a current of electricity is passing; and Schwigger "multiplied" the effect of such a wire, by coiling it repeatedly around near to the needle, we were furnished with a more delicate test for Thermo and Galvanic electricity. The instrument having the needle and conductor properly adjusted for this purpose, is called the Electro-Magnetic Multiplier, and sometimes the Thermo-Electric Multiplier or Galvanometer. In 1833, I attempted to improve the delicacy of this instrument, by spreading out the coil, and flattening it, so as to bring the whole of it as near as possible to the plane in which the needle traversed. I succeeded so far, that

by the warmth of the end of the finger applied to one of two pieces of metal in contact with each other, and with the two extremities of the coil, the needle was impelled twice around.—The delicacy of this instrument was complimented both by Professor Silliman, of Yale College, and Professor Emmet, of Virginia.—The coil was made of copper bell wire, and was about 3 inches in diameter, having within it a needle 2½ inches long, and weighing only a few grains. After a variety of experiments, I have just now succeeded in producing an instrument much more surprising in its effects.—This instrument is 12 inches in diameter, and has a needle eleven inches long, and weighing one and a half ounces, suspended horizontally by a silk thread fastened to the middle of it.—The Battery, or exciting agent, consists of a disk of bismuth as large as a 12½ cent piece, and a corresponding one of copper laid upon it, one being connected with one end of a copper coil, and the other with the other end. The end of the finger being laid upon the copper, generated electricity enough, by the warmth passing through it to the bismuth, to impel the needle half round. If then the contacts with the coil be reversed, it will be impelled the other half round, and so on, in perpetual revolution, during pleasure. This surprising effect is produced solely by a lateral influence of the electricity in the conducting coil, for it does not touch the moving needle, nor come within the fourth of an inch of it at any point. I know the result is incredible, but the experiment was made yesterday in presence of the class of the Medical College, of Ohio, for whose instruction the instrument was invented and made. This delicate "invisible agent" in nature is undoubtedly concerned in physiological effects.—Animal heat is not expended by contact with surrounding bodies without electrical changes, capable of moving ounces even of ponderable matter.

I now proceed to a particular description of the construction of the instrument. The coil of such an instrument has usually been made of common copper bell wire. This straightens the current of electricity, and compels it to move with such velocity, that its influence on the magnetic needle is not fully exhibited: for electricity under "INTENSE" velocity, as from a common electrical machine, or even from a charged battery, scarcely affects the magnetic needle. I have therefore used a copper riband, about one-tenth of an inch thick, one-fourth of an inch wide, and 40 feet long, weighing 3¼ pounds.

1st. Cut out a circular board half an inch thick, and twelve inches in diameter, screw it into a vise, so that half of it shall stand above the jaws, apply the middle of the 40 feet riband to the centre of the circular board, and wind one half of it around that board in parallel turns, side by side, as close together as possible without touching, until it is nearly wound up, and near-

ly covers the half of the board.—Loosen the vise and turn up the other half of the board, on which wind the other half of the riband in the same manner. The whole may then be thrown in the fire, and the board burned out; or the coil may be parted in the middle at one end, and the board extracted, bending the riband back again into its proper place.—It then resembles, on each side, the parallel bars of a circular gridiron.

2d. Fasten this coil to the upper side of a wooden ring, 12 inches in diameter outside, 9 inches inside, and five-eighths thick, separating the several coils at their turns, by thin veneers of wood, inserted by means of a saw-cut into the periphery of this ring, and rising above it.—Screw three bracket feet of brass to the under side of the wooden ring, so as to support it, two and a half inches from the table, and insert levelling screws in the feet.

3d. To suspend the middle and protect it from currents of air, a cover made of a hoop of thin brass two inches wide and twelve inches in diameter, with a glass plate, having a hole drilled in the centre, in which a brass suspension tube is inserted, is put over the whole. The suspension filament or wire, is let down from the top of the tube and hooked to the needle through a hole cut in the side near the glass cover. This permits the suspension to be easily withdrawn and changed.

4th. The needle is a compound one, consisting of two needles, 11 inches long, made of the blade of a cabinet maker's saw, rather more than one fourth of an inch wide, and fastened together by a wire in the middle so as to be parallel and about three-fourths of an inch apart.—These needles are charged magnetically and with their poles *reversed*, so that there shall be, at each end a north and a south pole. By this means the earth's power to force it into the meridian and make it settle there, like a compass needle, is nearly or quite overcome, and the needle rendered "astatic."*

The lower needle must be capable of being unscrewed from the upper one. Separate the needles by unscrewing, insert the lower one *within* the coil, and screw the upper one to it above the coil, by passing the screws between two of its turns, left a little wider apart in the middle for that purpose, say the eighth of an inch, having previously laid a thin dial like a compass card over the coil, hook the suspension thread to the needle, and wind up one-fourth of an inch. The double needle will then be suspended, the one part hidden within the coil, and the other above it and the dial, in full view, resembling a very large compass with the cardinal points, N. S. E. W. and the degrees conspicuously marked upon it. This suspension is the same as that of Colomb's torsion balance.

---

* Invented by Nobili.

5th. The instrument is supposed to be levelled; this is effected by means of a plumb-line fastened to the "plug" and descending through the tube, described under No. 3, and having a top-shaped bob at its lower end, where an outer sliding tube with its sides filed away to open a view, and bearing an index pointing upward, indicates by having the lower point of the bob exactly over it, the true level of the instrument to have been attained by the "levelling screws" No. 2.

6th. The ends of the coiled "riband" are bent downward through the "wooden ring," and have each a brass thimble attached to them, and filled with mercury, and amalgamated to them by means of Nitrate of Mercury.—The Thermo-electric battery consists of a piece of copper as large as a 12½ cent piece of silver, with a piece of copper bell wire 7 inches long, soldered to it, and bent downward in a hook half an inch long at the end, and of a corresponding piece of bismuth with a similar piece of copper wire attached. The hooks of both must be amalgamated with nitrate of Mercury. A copper wire, coiled in a flat rattle-snake spiral, instead of the copper disk, increases the power.

7th. The instrument being levelled, and the needle lying parallel, to the copper turns of the coil, insert the hook of the copper dish in one cup, and that of the bismuth in the other, place the copper on the bismuth, and lay the end of the finger upon it; the north end of the needle will immediately turn either to the East or West. At this point the two elements of the battery must be instantly changed and hooked each into the other cup, when the needle will be impelled, say from E. by South to W. when the Battery must be again changed, and impulse will be given for the next half circle. Thus by a change at every half revolution, the needle may be continually impelled forward in a circle until the torsion of the suspension filament becomes equal to the force. The impulses can then be reversed, when the needle will presently move with a velocity too great to allow time for the changes. A double battery may obviate this difficulty.

Every public lecturer will perceive that this is a splendid instrument for 'class experiments,' especially before a large audience. Its motions are distinctly seen at the distance of 60 feet, and it can be applied to a variety of cases where the common thermometer affords but a "tame" exhibition, seen only for a few feet.—If one of the elements of the battery be heated in boiling water, or over a lamp, and applied as above, the motions of the needle will be proportionably accelerated, and a galvanic action of the smallest extent is decidedly indicated; even a particle of dilute acid acting on the point of a pin, will move this heavy needle.

In order further to test the delicacy of my "Large Thermo-

Electrometer," I placed the generating element, a small piece of bismuth soldered to a corresponding piece of copper, in the focus of one of Pictet's reflectors, and held my hand in the focus of the opposite one, at the distance of ten feet. The needle of the instrument was immediately turned by the radiant heat concentrated upon its little battery. To make the experiment in a less exceptionable manner, I substituted for my hand a blackened canister, filled with water heated to the temperature of the body. The same effect was produced as with the heat of the hand. By means of a delicate differential thermometer, I ascertained that the heat produced at this focus of radiation, from the hand or the canister, was only a very small fraction of one degree of Fahrenheit's scale. I am now about to procure one of Meloni's batteries, which applied to the above instrument will undoubtedly produce some new effects. I have lately made a second instrument, in which I have lengthened the copper coil to fifty feet, and increased its weight to four and a half pounds. Its powers are very much increased. I have surmounted this second instrument with a tube, calculated to receive a "Torsion" suspension to the needle, and having a revolving torsion index, extended to a graduated circle, twelve inches in diameter. By this arrangement, it becomes a magnificent "Torsion Balance," by means of which the deflecting forces, both of galvanic and thermo-electrical currents, can be measured with facility and precision.

Torsion experiments.

1. Having suspended the needle by a brass wire, six and a half inches long, and weighing one-fourth of a grain, the usual thermo-electrical experiment by the warmth of the finger, the temperature of the room being fifty-five, twisted the suspension twenty-four degrees.

2. My small calorimotor, having one and two-thirds square feet of zinc plate, excited by very dilute acid, impelled the needle with such violence, that the twisting of so small a wire seemed to afford no perceptible resistance. By interrupting the circuit at every half revolution, so as to give semicircular impulses, all in the same direction, fifty-four rapid revolutions were produced, when the wire was literally twisted asunder!

3. A brass torsion wire, weighing one grain to the inch, as large as a common pin, and six and a half inches long, being introduced, the battery used in the last experiment, produced a torsion of thirty-five degrees.

4. With the same torsion wire, Dr. Wollaston's "Thimble Battery" deflected the needle one and one-fourth degrees.

5. The great calorimotor of Dr. Hare, consisting of forty-one eighteen-inch plates, caused a torsion of a hundred and seventy-five degrees; and when the needles were forced by the torsion

index into a reversed position, although they were made of highly tempered steel, their magnetism was instantly inverted; that which had been the north pole becoming the south pole, and remaining permanently so! The same effect is produced by a stroke of lightning, whenever it crosses a magnet in the proper direction.

From this last experiment, I infer that this galvanometer, although large and powerful, is not adequate to the measurement of the force of a battery of such magnitude. The deflection of the needle is the effect of a mutual reaction between the galvanic current and that of the permanent magnet, and if one is proportionably feeble, the increase of the other is not indicated. The large copper bars of my galvanometer, transmit a torrent of electricity from a large battery, and that almost in contact with the needle throughout its whole revolution; a current, the strength of which I find, even a powerful needle, no more adequate to measure than a feather is that of a whirlwind. The magnetism is not only carried away, but a new and reverse order substituted according to the direction of the over-ruling vortex. I obtained a deflecting force of half an ounce which was the maximum of the needle's reaction.

A sixteen-inch file one and a half inches wide being thrust through the "coil" crosswise became instantly a permanent magnet.

Concluding remark. Many persons may be surprised that so much time and labour should be bestowed on an out of the way subject, which as they view it, promises nothing useful. If, after the lightning had riven the oak, the rock, the earth, and laid lifeless all animals in its way, the veritable thunder-bolt, spent, harmless, ponderable, tangible, could be found, its properties would be a subject of rational enquiry and pardonable curiosity. This is the identical subject of our experiments. Franklin arrested the "bolt of Jupiter," and the world have ever since been examining it. The subject is by no means exhausted. Every modern enquiry points to the conclusion that electricity, in all of its modifications, is the very essence of physical power. It is the instrument with which the Creator performs his wonderful works. It has been proved to be the cause of magnetism, and if it is not chymical affinity itself, it holds a supreme control over it: probably it is the cause of all kinds of attractions and repulsions including even gravitation. As a physiological agent it is peculiarly interesting, and is likely to prove to be the nervous fluid, the medium of sensation and volition, and a principal agent in all of the vital functions.

REFERENCES TO THE PLATE.

AA. A cylindrical brass box containing the coiled riband of copper, which is the conductor acting on the needle to deflect it.

BB. The mercury cups soldered to the projecting extremities of the coil.

CC. The copper wires which connect the little battery of copper and bismuth with the cups.

D. The end of the finger laid upon the copper and bismuth in contact with each other.

F. The upper needle, underneath the glass and deflected from north towards the east, the lower one being parallel to it and concealed both by the card and the coil within which it revolves.

G. The index of the torsion, lying above the glass cover and pointing outward to the graduated rim of the instrument.

H. The suspension tube connected at its lower end with the index, and at the upper end with the suspension, which may be of silk or wire, according to the strength of the electrical current intended to be applied. This suspension tube revolves freely on an inner and shorter tube which is firmly set in the glass. When the needle has been deflected and the wire twisted, an opposite motion of the index through an arc sufficient to bring the needle again to its original position becomes a measure of that deflecting force, agreeably to the general principle of elasticity.

I. A hole cut in the suspension tube, for the purpose of viewing the suspended plumb, in levelling the instrument.

MISCELLANEOUS.

MEDICAL COLLEGE OF OHIO.

The Annual Course of Lectures in this Institution, will commence, on the last Monday of October, and close in the last week of February.

The Fee for admission to the lectures of the Professor is $15 each—making the aggregate $90—to be paid in advance. The Matriculation fee of $5, entitles the students to the use of the College Library during the session. The ticket for attendance at the Hospital is $5, which may be taken or omitted at pleasure.

It is well known that this institution has had to contend with great difficulties, from causes of an extraneous character, which have operated in no slight degree to mar its prosperity and usefulness. There is, probably, not a similar institution in existence which could have prospered in a degree commensurate with its intrinsic merit, while opposed by the unrelenting obloquy and misrepresentations which have been directed against this School. It is unnecessary, and perhaps improper in this place, to advert particularly to the various open and secret acts of hostility which have been resorted to by some designing individuals to effect the ruin of the College, or reduce it under their own control. It is sufficient for our purpose to state, that the College has triumphed over the machinations of its enemies—that, though hitherto retarded in its progress by misrepresentation and insidious disparagement, the decisive domonstration, which the present class affords, of the increasing confidence and respect of the profession, justifies the belief, that the school requires but a continuance of the present harmony in its Faculty to insure its future prosperity and usefulness.

It does not, perhaps, belong to us to speak confidently of the future success of the College. Without, however, presuming to claim any extraordinary qualifications for the duties we have to fulfil, we may be permitted to say, that so far as a firm determination to apply whatever ability we have with faithful and zealous industry to the instruction of our pupils can contribute to success, we have no apprehensions of the result.

The class of students has increased during the last three years, from 92 to 185 pupils—a rapidity of increase, which affords the most gratifying evidence of the prosperous condition of this institution.

The advantages which our College affords for medical instruction, both in relation to the commodiousness of the College building, and the apparatus, and means for illustration and experiment, are amply sufficient for comprehensive and efficient instruction in the various departments of medical science.

The anatomical department is furnished with every thing requisite for a full, minute and satisfactory illustration of the various objects embraced in this branch of medicine. Amongst the most useful and valuable of these preparations and models are : 1. M. Auzoux's celebrated 'Anatomie Artificiale ;' a figure exhibiting the natural form of the human body, as well as the natural and relative position, size, shape and color of the various organs and structures of which it is composed. It is so constructed as to admit of the separate removal of the different organs and parts of the body, in the order in which they would be exposed in a regular dissection. 2. Enlarged wax models of the eye and ear, by Schloss. 3. Wax models of the brain, its nerves and blood vessels, by Mr. Powers. 4. A considerable number of dried injected preparations, exhibiting the venous and arterial system of the whole body in connection, and in detached portions. 5. Hearts injected in connection with surrounding parts, &c. 6. Beautiful preparations of the thoracic duct, aorta, &c. 7. A complete set of wet preparations of the ligaments and cartilages of the different articulations. 8. Natural and artificial male and female skeletons. Fœtal skeletons of various ages. 9. An extensive collection of preparations, illustrative of osteogeny. 10. Wet preparations of various organs of the human body. 11. Large carved models of the most complicate and minute bones of the head. 12. A collection of preparations in comparative anatomy. 13. Wet preparations of remarkable monstrosities, and many morbid preparations, exhibiting the effects of diseases. 14. An extensive collection of anatomical engravings, such as Tiedeman's large and splendid plates of the arteries ; Lizar's beautiful anatomical plates ; Cloquet's illuminated plates ; Scarpa's celebrated plates of the nerves, aneurisms and hernia ; Breschet's splendid illustrations of the veins, &c. ; a number of oil paintings, giving enlarged and accurate views of the structure of the different parts concerned in the more important surgical operations, &c.

The professor of anatomy delivers six lectures per week, and displays every part of the human system to his class on the recent subject, in regular order ; while the adjunct professor of Anatomy teaches the pupils how to dissect, and to display the various organs and structures of the body, so that with the dissecting knife in their own hands, they may become practical anatomists. The dissecting rooms are ample, and furnished with the appropriate means and conveniences for dissection.

The professor of Surgery lectures four times a week. This department is supplied with all the apparatus, instruments, and preparations requisite for efficient instruction in practical surgery. The efforts of the professor are especially directed to practical surgery, in his course of instruction. During the course of the session, the students not only witness all the regular operations which occur in practice, but they are required to perform the various operations themselves on the dead subject, under the eye and direction of the professor. Among the apparatus, &c., belonging to this department, the following are the most valuable and useful. 1. An apparatus for illustrating the various methods of treating fractures of the thigh bone on the *inclined plane* system. 2. A double fracture bed; single fracture bed. 3. Two sets of Amesbury's splints, for all kinds of simple and compound fractures of the extremities. 4. Seven sets of apparatus for treating fractures of the patella, according to the various methods recommended in modern times. 5. Six sets of apparatus for fractures of the humerus. 6. A set of Cooper's dislocation pulleys and pads. 7. Four sets of splints for the treatment of fractures of the femur upon the horizontal plane. 8. A set of swinging apparatus for the tibia and fibula; two sets of common apparatus for fractures of the tibia and fibula. 9. Four sets of apparatus for fractures of the fore-arm, together with a great variety of splints. 10. A manequin for teaching the application of bandages, in the various fractures and dislocations that occur in practice. 11. A great variety of superior surgical instruments; among which are, a case of lithotomy instruments; two cases of lithotritic instruments; a case of amputating instruments; a case of eye instruments; a case of instruments for hydrocele; two cases of trephine instruments; a case of catheters, bougies, and other urethra instruments, with a variety of other instruments of minor importance. In addition to these apparatus and instruments, the professor of Surgery possesses about 250 interesting specimens of morbid anatomy, many of which are of essential utility in explaining the nature and consequences of certain local maladies.

The professor of Obstetrics lectures four times per week. This department is provided with many interesting models and preparations for elucidating the various subjects, which form the objects of this professorship. Among these, the following are the most instructing and useful.—1. An obstetrical machine, by which the course of parturition can be pretty correctly exhibited, and on which the students are taught to apply the forceps and other appropriate instruments, in the different presentations and conditions occurring in parturition. 2. A collection of 16 wax figures, representing various important subjects in obstetrical anatomy. In this collection is contained a series of interesting

figures, designed to exhibit the progressive development of the *fœtus in utero*, from its earliest embryotic state, to the matured child, at the end of gestation ; and also the progressive enlargement, relative position and shape of the uterus at various periods of pregnancy. 3. A series of abortions, carefully prepared and preserved in alcohol, exhibiting the appearances and sizes of the ovum and the embryo from a very early period after conception to the matured fœtus. 4. A collection of obstetrical plates ; some of them of much interest and usefulness to the learner. 5. An excellent collection of obstetrical instruments, embracing the whole of Davis' instruments. 6. An ample collection of female pelves, of fœtal heads and skeletons. 7. Various preparations of female organs of generation, preserved in alcohol.

The professor of chemistry delivers four lectures per week. The laboratory is ample and well arranged ; and the apparatus, sufficiently extensive for a full and satisfactory course of instruction in theoretical and practical Chemistry. Among the apparatus belonging to this department, are Hare's Calorimoter, consisting of 41 eighteen-inch plates, and exposing 184 square feet of metal surface. This instrument has been lately constructed by Dr. Locke, professor of Chemistry. Locke's pneumatic cistern, with four copper gasometers, each of a barrel in capacity ; also, lately made by the professor, a large Deflagrator. This is the largest apparatus of this kind in the United States. An extensive series of instruments, for experiments in electro-magnetism. This is undoubtedly the most complete set of electro-magnetic apparatus in this country. An excellent air-pump, with a number of receivers. Two electric machines, with a complete set of electric instruments. Two large Pictet's reflectors. Hare's compound blow-pipe. A Wolfe's apparatus. Thermometers, Barometers, and Eudiometers. Wollaston's Cryophorus. A galvanic battery, consisting of 200 pairs. A quicksilver bath, containing about 100 pounds of mercury. Two Madgeburg hemispheres ; a number of glass tubulated retorts ; long necked matrasses ; large pneumatic receivers. Hare's (small) calorimoter ; differential thermometer ; generator of hydrogen ; silver and platina crucibles ; 2 sacharometers. A pretty full set of hydrostatic apparatus. A series of optical instruments ; electrometers ; Colomb's torsion electrometer, (constructed by Dr. Locke.) A complete series of specimens and models of crystalography. Apparatus for non-conduction of water. A small galvanic battery of 130 pairs. A moving model of steam engine ; Photometers.

The whole collection of apparatus includes about two hundred and twenty separate instruments, worth about three thousand dollars. In addition to the apparatus, there is an extensive and complete series of chemical preparations, vegetable substances,

and simple elementary bodies. The professor of Chemistry lectures from short notes, and makes the experiments as they are called for by the text, giving at the instant of each experiment, the verbal explanations necessary to the understanding of the subject.—He uses, also, diagrams on the black board, and models where they will serve to illustrate. He makes it a point to give the experimental part of the course as full as possible; for ample experimental illustration is most undoubtedly the most efficient mode of teaching Chemistry. As medical students in this country are not subjected to any standard of preparatory acquirements, it is important that the apparatus should include several instruments belonging to natural philosophy: such as hydrostatic and pneumatic and electrical machinery. Our apparatus includes most of these, but not on the magnificent scale desirable. For when a student comes many hundred miles to an institution belonging to such a State as Ohio, and such a city as Cincinnati, he has a right to expect not only a full course of experiments, but the experiments themselves to be conducted on the most magnificent scale. Indeed, many experiments can hardly be seen by the remote spectators of a large class, unless they can be performed with large instruments. The professor has therefore by his individual exertion, constructed several of the large instruments already named, such as the great calorimoter, deflagrator, and pneumatic cistern; and proposes to add a number of other instruments upon the same magnificent scale, as soon as circumstances permit.

The lectures on the Materia Medica are given four times a week, and the professor of Theory and Practice of Medicine lectures six times a week. The professor of Materia Medica exhibits specimens of the articles on which he lectures, and endeavours to make the student acquainted with the natural history, chemical and sensible properties, medicinal powers, and therapeutic application of the remedial substances that occupy his attention.

The professors of the Theory and Practice, and of Surgery, deliver clinical lectures in the Hospital twice per week, where the nature and phenomena and treatment of diseases are practically illustrated, and the effects of diseases in fatal cases explained by post mortem examination.

The Adjunct Professor of Anatomy devotes his time, throughout the session, to the Practical Illustrations of that fundamental branch of Medical Science. Extensive dissecting rooms are fitted up in the most commodious manner, and the supply of subjects for this department is ample. The dissecting rooms are opened on the 1st of September, for the accommodation of those who may wish to prosecute this branch before the regular course commences.

The degree of DOCTOR IN MEDICINE, *was conferred on the following gentlemen, at the last commencement of the Medical College of Ohio.*

Milo D. Adams,	*On Cynanche Trachealis.*
James L. Allen,	*On Cholera Infantum.*
J. W. Anthony,	*On Bilious Remitting Fever.*
M. J. W. Ambrose,	*On Acute Gastritis.*
Joseph Atkins,	*On misapplication of Tonics, &c.*
Horace Austin,	*On Sick Stomach.*
Wm. T. Baskette,	*On Hæmorrhoids.*
J. D. Beard,	*On Marsh Miasma.*
Jeffreys A. Black,	*On Inflammation.*
Josiah L. Buster,	*On Physiology, &c.*
David Chambers,	*On Scarlet Fever.*
Ambrose F. Clark,	*On Epidemic Fever.*
Jacob Clark,	*On the character of Intermittent Fever.*
John Collins,	*On the importance of Chymistry, &c.*
Robert H. Crawford,	*On Dysenteria Acuta.*
C. C. Edday,	*On Intermittent Fever.*
R. F. Edmonson,	*On Peripneumonia.*
Israel Evans,	*On the use of Iodine in Scrofula.*
Thomas Hall Fox,	*On Intestinal Worms.*
D. E. Gibson,	*On Milk Poison.*
M. H. Harding,	*On Scarlatina.*
Isaac Hazlett,	*On Dysenteria Acuta.*
Cheney How,	*On Corrosive Sublimate.*
A. J. Kennedy,	*On Bandages.*
James S. Kyle,	*On Quina.*
Enos Lowe,	*On deceptive Symptoms, &c.*
Joseph Maddox,	*On the use of Ergot.*
Wm. B. McCormick,	*On Syphilis.*
Andrew C. McDell,	*On Dysentery.*
M. D. Means,	*On the Congestive Fever of Mississippi.*
Elisha Morgan,	*On Variola.*
John Orr,	*On Dysentery.*
D. Dale Owen,	*On the connexion between Chymistry and Medicine, &c.*
Henry Porter,	*On the manner in which the Organs of the Abdominal Cavity may affect unfavourably those of the Thorax.*
Richard Pretlaw,	*On the Functions of the Uterus and Uterine System.*
John C. Red,	*On Bilious Remitting Fever.*

W. A. Smith,.....*On Acute Dysentery.*
B. B. Smith,.....*On cold water in Fever.*
Joseph K. Vandervort,..*On Diathesis.*
W. J. Weaver,.....*On Milk Sickness.*
Felix B. Webb,.....*On the Functions of the Spleen.*
David Whitaker,.....*On Intermittent Fever.*
Benjamin M. Webb,.... { *The effects of Ardent Spirits on life and health.*
Ethan S. Williams,.....*On Hydrocephalus Acutus.*
O. P. Williams,.....*On Digestion.*
Wm. T. H. Winlock,....*On Iodine.*
Z. F. Young,.....*On derangement of the Liver.*

The *honorary* degree of Doctor in Medicine, was conferred on the following gentlemen:—Dr. Wm. McClay Awl; Dr. Philip Buckner; Dr. William Judkins; Dr. Alexander Duncan; Dr. Samuel Martin; Dr. L. G. Thompson; Dr. D. H. Maxwell.

THE

WESTERN QUARTERLY JOURNAL OF PRACTICAL MEDICINE.

EDITED BY

JOHN EBERLE, M. D.,

Professor of the Theory and Practice of Medicine in the Medical College of Ohio, &c. &c.

ASSISTED BY

PROFESSORS A. G. SMITH, M. D., J. MOORHEAD, M. D., J. LOCKE, M. D., I. COBB, M. D., and J. T. SHOTWELL, M. D.

The WESTERN QUARTERLY JOURNAL OF PRACTICAL MEDICINE will embrace—

1. Original Communications on subjects relating to Medicine, Surgery, and the collateral sciences.

[As the Editor is desirous of giving as much *practical* value to this Journal as his own efforts with the aid of his correspondents will enable him to accomplish, he would respectfully request those who may favour him with contributions for its pages, to keep this object in view, in their communications.]

2. Reports of interesting cases of disease, surgical operations, autopsic observations, &c.

3. Critical and analytical reviews of new publications in medicine and surgery.

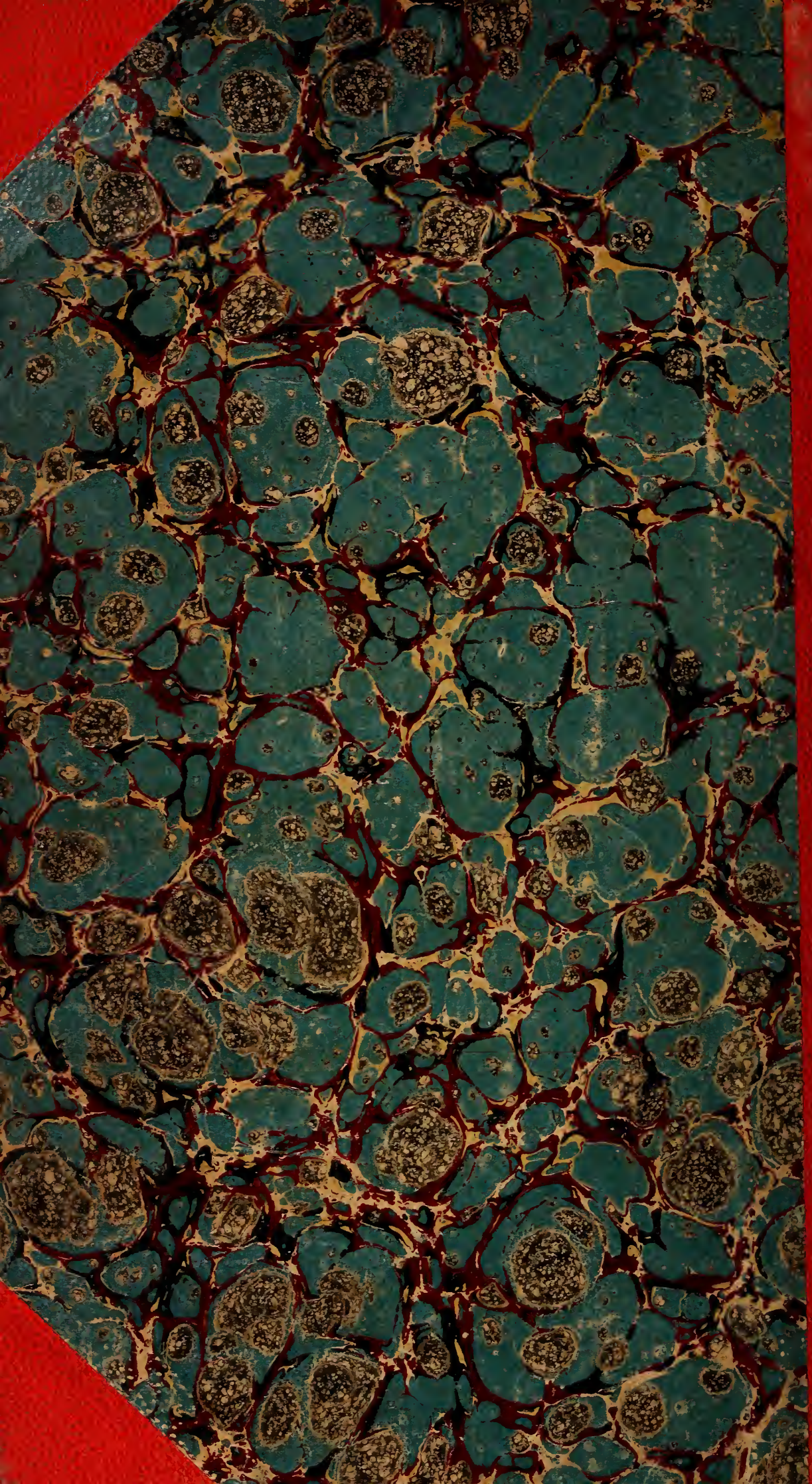
4. Analecta—condensed extracts of new and interesting observations, from foreign and American journals.

5. Short bibliographic notices of new publications in medicine.

6. Correspondence, medical intelligence, meteorological observations, obituary notices, &c.

Letters (post paid) and communications for the Journal, to be addressed to the Editor.

NOTICE TO SUBSCRIBERS.

THE publication of the first number of this Journal was unavoidably delayed beyond the time stated in the prospectus. In consequence of some unexpected difficulties in making satisfactory arrangements for the mechanical execution of the Journal. Every arrangement, proper to ensure the regular progress of the Journal, is now fully effected; and the subscribers are, confidently, assured, that strict punctuality will be observed, in issuing the succeeding numbers, at the regular quarterly periods. The second number of the Journal will be published on the first of September.

M. B. 989